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THE

BIRDS OF SHETLAND.

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THE BIRDS OF SHETLAND

WITH

OBSERVATIONS ON THEIR HABITS, MIGRATION, AND OCCASIONAL APPEARANCE.

BY THE LATE

HENRY L. SAXBY, M.D.,

OF BALTA SOUND, UNST.

EDITED BY HIS BROTHER,

STEPHEN H. SAXBY, M.A.,

VICAR OF EAST CLEVEDON, SOMERSET.

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TO

THE DUKE OF ARGYLL,

HIMSELF A SKILLED ORNITHOLOGIST,

THESE NOTES,

BY THE AUTHOR'S DESIRE,

AND HIS GRACE'S PERMISSION,

ARE INSCRIBED.

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PREFACE.

JUST twenty years ago, my dear brother was preparing, with all the eagerness of a boy naturalist, to be the companion of my second visit to Shetland, where the summer was to be spent as we loved best to spend it; nor is it altogether without a strange sort of fitness that he now hands me the result of his work thus begun, as he passes out of our sight for a while. Yet the task of giving it to the world is far from easy to one who has for so many years been out of the track of natural science, though loving no earthly thing so well. I can claim but a single merit for my share in the book,—that of accuracy: for the rest, allowance must be generously made for shortcomings almost inseparable from work thrown unexpectedly upon a parish priest, only able to give to it the hours which could be spared, and ill spared, from occupations of a wholly different kind.

The manuscript substantially reproduced in the following pages was left by its Author in an incomplete state, both as to extent and as to general readiness for the press. Each page, however, shows evidence of extreme care in the compilation, there being almost no single statement in the book for which authority cannot be adduced, with full circumstances of time and place, from one or other of the many annual volumes of the daily ornithological register. The Author's personal work came to an abrupt ending in the middle of the *Alcadæ;* but it must not be supposed that the rest of the book is merely on authority so slender as mine. The reader may

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confidently assume that every current statement of fact is either literally or in substance a transcript from the author's note-books, the greatest care having been taken to isolate, either in foot-notes or within brackets in the text, all additions by the less competent hand.

One notable and altogether inevitable shortcoming must of course be in the entire omission of other than a general allusion to the many friends and fellow-ornithologists to whose counsels and criticisms the Author was so deeply indebted, and in communication with whom he found so keen a pleasure during the long years of his residence in a region remote from the great centres of intellectual life. His kinsfolk can divine something of his feeling from the profound gratification caused them by the expressions of brotherly goodwill and sympathy which, upon the announcement of his sudden decease, poured in from every well-known name in his especial department of science. I fear to mention any, but all will understand with how good warrant I speak when a handful of the names will be such as Newton, Harting, Cordeaux, Harvie Brown, Scott Skirving, Feilden, Hadfield, &c., &c.; nor will any fail to appreciate the value of an endorsement of such testimony by hands so far-reaching as those of Mr Gwyn Jeffreys or of Professor Cunningham; or last, though very far from least, of him who has for so many years sat at the focal point, Mr Edward Newman.

My own personal acknowledgments are likewise due to many, and notably to the Duke of Argyll, who very kindly examined with me at Inveraray the MSS. and journals, and gave very useful counsel as to the mode of completion of the work. I must also return very sincere thanks to Professor Newton for his most friendly offer to correct the proofs, even though, from various circumstances, I was unable to take advantage of it. To numerous others also my best thanks are due for the zeal shown in procuring subscribers to the book.

As regards the book itself, the original purpose was that

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the plates should be illustrative of the habits, &c., of some of the most interesting of the Shetland birds; the Snowy Owl, the Red-necked Phalarope, the Black Guillemot, and the Great Skua, being especially marked out for this treatment. The author's exceeding skill as a draughtsman would have rendered this feature of the book especially attractive, he having, moreover, while in Edinburgh, taken pains to become familiar with the processes of lithography, in order to secure the more perfect fidelity to his thought by drawing the birds on the stone with his own hand. Unfortunately, the designs were not ready; and the only thing to be done was to substitute some of his drawings of Shetland scenes and places referred to in the text, for the skilful adaptation of which I am much indebted to the well-known lithographers whose names they bear.

In the arrangement of the subject matter, it appeared to be an editor's duty to follow the course marked out for him; and accordingly the orders and families are given as they are in the MS.; apparently taken, with very little variation, from the standard work of Mr Yarrell. The accomplished and genial author of that work did not, however, profess to be giving us so much a book of natural science as of natural history. It was enough for his purpose if he had at hand a tolerably convenient grouping by general affinities; and possibly he may have with reason thought that, at the stage at which he took up the subject, the bestowal of much labour on points of classification would have been to diminish the attractiveness of writings which have so successfully allured the interest of a whole nation to their author's favourite pursuits. It may also very well be that, in dealing with the higher organisms of the animal kingdom, the attention of the student is so attracted toward the ever-varying outward manifestations of the life as to dwell the less readily upon those fundamental relations, whether of structure or of function, which the botanist, for example, is accustomed to regard as his first care: nothing, however, is more certain than that such relations afford the only sound basis on which to systematise. I do not doubt

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that my brother would have fully shared this feeling, and would have seen with gladness the special attention given to this matter by the very able editor of the new issue of the invaluable book in question; but it seems better I should alter the draught too little than alter it too much. In every department of natural science we may see in the nomenclature a wholesome warning that no one may safely meddle with synonyms who is not thoroughly master of the subject, and of an extensive special library to boot. Accordingly, I have not even ventured to append authorities to the specific names, the birds being all so readily cognisable,—except, perhaps, in the case of the *Motacillidæ*, which seem to perplex all alike.

The wild and picturesque country in which the scene of the book is laid has many aspects of singular interest, nor are personal reminiscences of the hospitable manners and cultivated minds of its leading inhabitants of a kind to render easy an exclusive attention to one of those aspects alone; it is, however, solely with its ornithological conditions that we have here to do. These have been dealt with by other hands before now, though not in such full detail; but there is one point in which the present work differs not only from them, but, I venture to think, from all the numerous monographs by which in this generation the interests of the science have been so largely promoted. It tells of a most marked and rapid change in a Fauna actually going in a direction the very opposite of that which we are accustomed to deplore as the result of the development of material prosperity and of increasing civilisation. It is true that the customary issue of contact with this latter force is being only too grievously seen in the case of some few species, but as regards a large number of others the accession is very decided. The planting a few trees, carefully sheltered by stone walls from the sweeping gales of the Atlantic, has had a curiously marked effect in attracting birds hitherto unknown as visitors to the islands; an effect, indeed, altogether disproportionate to the small scale on which the experiment has been tried. The extensive and often extremely

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rich peat-grounds of Shetland attest, not only by their existence, but by the occasional conservation of the actual roots and trunks, the former prevalence of luxuriant forest growth where all is now a treeless wild; though, in the present state of our knowledge as to the distribution of species, none may venture to assume that at that remote epoch it would have been possible for the Fauna to have been as in these days. There can, however, be little doubt that in numerous instances, as the author was adding to the Shetland list now one and now another of our southern birds, he was but chronicling the return, after the lapse of many a century, of a species reappearing after its long exile. I know not whether there are any among the residents in the islands who possess that perfect familiarity with southern forms which is requisite for the identification of the woodland birds upon a mere glimpse of the plumage or a momentary hearing of the note; I trust, however, there may be those who will keep a watch on this matter as only residents can; and who will in due time report upon the farther progress of so interesting a reclamation.

It must, nevertheless, not be supposed that the insertion of a name upon the list has in any one instance been made upon evidence so slight as this mere passing glimpse or casual note, unusually quick and cultivated though the Author was in every faculty that goes to make a good observer. In each individual case the grounds of insertion are fully detailed. It may be well, however, to remark that the confidence shown in speaking of the appearance and habits of many species seldom seen in the north is the result of long study of them, through childhood and boyhood, in the south of England, followed by residence near the great Forest of Soignies in Belgium, and a twelvemonth of daily research in that fruitful region for the naturalist, the vale of Festiniog in North Wales.

It was evidently the Author's aim to restrict the scope of this work to observations actually made in the Shetland Islands, not drawing upon knowledge gained elsewhere to supplement a notice otherwise of the scantiest. I have not felt

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justified in departing from this line in finishing the book, but have thought it would not be inadmissible to give as an appendix a few selections from journals other than those of the years in Shetland, adding likewise a page or two of the latter as a sample. Another appendix contains in a compendious form a carefully-revised list of birds known to have been observed in the islands up to the present date.

There remains the duty of commemorating the labours of those who have already treated of the subject before us, and in this I cannot err in pointing to the signal services rendered by members of one especial family, that of Edmondston of Buness. Begun by Arthur Edmondston in the early years of this century,* greatly advanced by his still surviving brother, Laurence Edmondston,† and yet further developed by the talented and much-lamented son of the latter, Thomas Edmondston,‡—whose untimely death on the Pacific coast, when naturalist to the expedition of H.M.S. Herald in 1846, will be well remembered by many—the work of elucidating the natural history of the group had made no small progress when this one department of it was taken in hand by the Author, who, as brother-in-law to the last-named, had the advantage of access to the MS. marginal corrections by which the lists published by him are very materially modified. Mention should also be made of the late Mr (Thomas) Edmondston of Buness, the hospitable entertainer of Biot and the French astronomers, and the ever-ready friend of science; also of his successor, the present proprietor, of the same name and style, to whom my own very hearty thanks are due; and, finally, of Mr Thomas Edmondston, jun., the "brother-in-law" so often referred to, who from early boyhood was the Author's constant associate in his ornithological pursuits.

Other honoured names there are in Shetland which might with no less justice have found place. I must, however,

* "View of the Zetland Islands," 1809.

† "Memoirs of the Wernerian Society," 1822, &c., &c.

‡ "Fauna of Shetland," Papers in the "Zoologist" for 1844.

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simply throw myself upon the kindliness and courtesy of those who bear them if I have erred in judgment in thus presuming to speak of one alone amongst those names, in illustration of the creditable fact, that the scientific resources of the country have been developed by Shetland men,—amongst whom not a few might with far more warrant than myself have edited the work which I now beg to place in the hands of the reader.

S. H. S.

April 1874.

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LIST OF ILLUSTRATIONS.

PLATE I.	THE ANCIENT CHURCHYARD OF KILMALIEU, ON THE SHORE OF LOCH FYNE, NEAR INVERARAY, *the Author's Burial-place*, . . .	*Frontispiece.*
,, II.	BALTA SOUND, FROM BALTA, . . .	*Page* 56
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ADDENDA ET CORRIGENDA.

Page 61.—Redwing. See Appendix, p. 384.

,, 168.—*For* "TIEVES' NICHET" *read* "TIEVES' (*i.e.*, *Thieves'*) NACHET (the latter word being the frequent designation of a troublesome child, meaning for a girl pretty much the same as *imp;* in modern English, applied to a boy).

,, 226.—*For* "HERALD DUCK" *read* "HARELD DUCK."

,, 337.—*For* "SAID FOOL" *read* "SAITHE FOWL" (this local name of the Lesser Blackbacked Gull being derived from its remarkable habit of singling out the shoals of *saithe* or coalfish, *Gadus carbonarius*, and hovering over them in preference to other fish.

,, 358, line 20.—*For* "not" *read* "barely."

,, 373.—Delete asterisk before Bohemian Waxwing.

Also in the Glossary, page 377, make the above correction, and add

Blue Maa—Common Gull. Herring Gull.

Tanya Maa—Common Gull.

Also in Plate IV. *et passim*.—*For* "Woodwick" *read* "Widwick' (the true name, of which the other is a modern corruption).

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THE

BIRDS OF SHETLAND.

RAPTORES.

I. *FALCONIDÆ.*

THE GOLDEN EAGLE.

Aquila chrysaëtus.

GRATIFYING though it would be could this noble species be placed at the head of the list of resident birds of Shetland, and reluctant though I have been at length to abandon the hope of obtaining even one authentic instance of its having bred there, the result of the most careful investigation proves it to be but a rare—it may be said, very rare passing visitor.

Dr Arthur Edmondston, in his "View of the Zetland Islands," published in 1809, makes not the slightest allusion to it, although in the "Fauna of Shetland," compiled by the late Thomas Edmondston, Jun., in 1844, it is mentioned as "apparently very scarce—probably only a straggler." The difficulty experienced in distinguishing the present from the following species when seen at a distance, even by observers well acquainted with the forms and habits of birds, has probably been the main cause of the numerous contradictory reports as to the residence of the former in these islands; nor is it by any means safe to place reliance on the assertions of the inhabitants themselves, who almost invariably apply the term "golden" to any white-tailed eagle which appears to them to be beyond the ordinary size. Even as lately as the year 1869, I

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was shown an egg said to have been taken in Shetland, and was confidently assured that the Golden Eagle bred regularly in the high cliffs of Bressay, where the supposed nest was even pointed out to me. However, a few inquiries among the people proved beyond doubt that the usual mistake had been fallen into. As for the egg—it was at least an excellent imitation—I was subsequently informed that it had been purchased from a dealer who was only too well aware of his customer's anxiety to procure a genuine Shetland specimen.

Previously to April 1866, I never even saw a Golden Eagle in Shetland to my knowledge. Then, however, as it rose within eighty yards of where I stood, I had a good opportunity of observing its appearance and mode of flight, to which fact may be attributed my less infrequent notes of its occurrence subsequently.

My acquaintance with it in its wild state having been so very slight, I can add nothing original as to its habits. Indeed the full and interesting account of this species, given by Mr Gray in his "Birds of the West of Scotland," seems almost to exhaust a subject always attractive to the naturalist, and the more so at a time when the work of extermination is almost complete. That such extermination is not far distant, becomes more and more apparent when we examine the ornithological records of every succeeding year; although it is not so easy to perceive how this sad event can be avoided. Legislative interference for its even partial protection would doubtless be regarded by many as a piece of tyranny; but so was the now popular Sea Birds Preservation Act. It is nevertheless by no means certain that we have done unmixed good in disturbing the balance of nature by the continual killing down of predacious birds.

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THE WHITE-TAILED EAGLE.

Haliæëtus albicilla.

ERNE—SEA EAGLE.

Although the White-tailed Eagle is gradually becoming less numerous in most parts of Scotland, there seems to have been no diminution in its numbers in Shetland within the last sixteen or eighteen years, notwithstanding the great extension of sheep farming. It is to be feared that this happy state of the matter will not continue long, as the use of poison is becoming only too common for the birds' destruction.

This species is scarcely so shy as the Golden Eagle. It cannot be considered more courageous, for I have seen it driven away from a village by a single Arctic Skua; but probably its greater familiarity with the haunts of man renders it more confident. At the breeding season, however, necessity compels it to become less shy, and even daring. In the year 1868 a pair which had newly hatched were a great annoyance to the neighbourhood of Balta Sound, although the nest was about eight miles distant in a straight line. So bold did they become at last, that they would carry off poultry from the cottage doors when the men were at the fishing, treating the women and children with the utmost contempt. Some years ago, one of the same pair made a pounce upon a tame duck which was feeding in a barnyard, but, being alarmed by a man who came out to the rescue, merely succeeded in seizing one foot, by which, however, the miserable captive was carried to the distance of about a mile, "roaring for mercy," as my informant asserted. The eagle then descended to a hillock, and there taking a firmer hold, rose once more and continued on its way to the eyrie.

The remains of a nest still existed in the high cliffs at Lund in the island of Unst, where I had the melancholy pleasure of seeing them some years ago; but as the bird no longer breeds in that island, I have seldom met with it except

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in very severe weather, or in summer, when the requirements of its small but insatiable brood compel it to forage among the neighbouring isles.

Although more easily contented with carrion than the Golden Eagle, it nevertheless preys largely upon rabbits, poultry, and birds of various kinds—from the domestic fowl or duck at the cottage door to the harmless little sandpiper upon the sands. It will also occasionally take a lamb from the hillside; but the statement of some authors, that it will attack a weakly sheep or pony, is simply the result of imagination. It is extremely partial to rabbits, and in pursuit of these will take up its abode for several days in succession in the uninhabited island of Balta, where it is tolerably secure from disturbance. So exceedingly numerous are the rabbits in that locality, that the Erne seldom considers it worth while to devour them in the usual manner; but tearing a hole a little behind the ribs, and another near the shoulder, and extracting the viscera—its favourite morsels—through these, leaves skin and carcase for the next comer. I have observed the same habit with the Golden Eagle, in the same island.

Fish are always acceptable, but the often repeated tale of the mode of capture, devoutly believed in by the naturalists of former generations, is now only cherished by the ignorant. In the "View of the Zetland Islands,"* already alluded to, we have the following account of the matter:—"Fish, I believe, is his general food; and he boldly attacks the largest kinds if they happen to come to the surface. Several desperate combats have been witnessed between this bird and the halibut. The former strikes his claws into the fish with all his force, determined not to forego his hold, and, although but rarely, is sometimes drowned in the attempt to carry off his prize. When he has overcome the halibut, he raises one of his wings, which serves as a sail, and, if favoured by the wind, in that attitude drifts towards the land. The moment he touches the shore, he begins to eat out and disengage his

* Vol. ii. p. 228.

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claws; but if discovered before this can be effected, he falls an easy prey to the first assailant. I knew a gentleman who, having seen an eagle entangled in this manner, attacked and killed him on his arrival on shore." Macgillivray quotes a more recent account to the same effect, but evidently without placing much faith in it himself. In this same account, the theory is suggested that, as the fish often obtains the mastery, a too rapid increase in the number of eagles is thus effectually prevented! The skate and halibut are the two species supposed to be usually selected, as they "bask upon the surface of the water;" but the fishermen assure me that they have never observed this habit in either. Indeed, it would be difficult for a fish unprovided with a swimming bladder to retain such a position without a very considerable amount of muscular exertion; and although certain of the skates have this habit, it must be remembered that they are not bottom feeders, and may have some other object in keeping at the surface than merely that of "sunning" themselves. We are also informed that the moment the shore is reached, the eagle begins to eat out its claws, but we are not told whether the fish (too heavy to be lifted from the water) is then carried high and dry upon the beach, or whether the fall of the tide is patiently awaited by the wet and shivering Tartar-catcher, nor how it is that the claws do not become hopelessly embedded and entangled in their prey. There seems but one way of accounting for the origin of this singular tradition, viz., that fish are seldom driven ashore except after a heavy gale of long continuance, when, all living creatures being forced to seek shelter, birds of prey are upon the verge of starvation by the time the sea brings them a supply of food. Then, availing themselves to the utmost of the opportunity, they become so gorged as to be almost incapable of flight, and even perhaps unable to escape a sudden assault with a stick. I have seen this in the case of ravens, hooded crows, and gulls; and whalers often speak of capturing gorged birds upon floating or stranded carcases. From the supposition of an eagle

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entangled by its claws to an account of the mode of capturing the fish, the step is easy. As an instance of how such tales are fostered and spread abroad, I may mention that a friend of my own once pointed out to me what he doubtless believed to be an eagle sailing ashore with outspread wings upon the back of a halibut; my humble suggestion that the bird was a cormorant standing drying its wings upon a nearly submerged skerry was, I fear, received with contempt, and I afterwards heard my friend bring forward the above *proof* of the theory to some ornithological guests. While upon the subject of aquiline tradition, it may be added that every eagle's nest in Orkney and Shetland is pointed out as *the* nest to which the world-renowned baby was carried in days of yore.

There seems to be no doubt that the White-tailed Eagle pairs for life, though whence and by what means a new partner is obtained when one has been destroyed is a mystery. Not many years ago, while a nest was in progress, the female bird was shot, and immediately afterwards the male disappeared, returning, however, in the course of a week, with a new mate. The latter was also mercilessly shot, but after an absence of about ten days the male once more returned, accompanied by another female, after which they were allowed to complete their nest and rear their young brood in peace. Although it is not until the begining of May that the young are hatched, the birds are seen in the immediate neighbourhood of the nest as early as the middle of March, and shortly afterwards they begin such repairs as the wear and tear by the last brood, and the storms of the previous winter, may have rendered necessary. Two eggs are usually laid, sometimes three; but I never heard of more than two being hatched. The only nest I ever saw containing eggs was in a high cliff in the island of Fetlar, rather nearer to the top of the cliff than to the bottom, and so placed beneath overhanging rocks that it could only be reached by means of a rope. It consisted of a mass of dead plants and sea-weed stalks, thickly covered about the middle with wool and hair. The eggs (on the 14th

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April) were quite fresh and of the usual roundish form, measuring three inches in length by two inches and three eighths in breadth. In colour they were soiled white, with a few faint brownish stains—in all probability received from some damp or decaying substance within the nest. The shells are always hard and somewhat brittle, and the yolks pale in colour. During the last few years, a large number of roundish white eggs have been sold as those of the Erne, but their small size, dull and chalky appearance, and exceedingly low price, ought to be sufficient to put intending purchasers upon their guard.

I think the young remain in the nest about six weeks. The male is occasionally seen upon the eggs, but by far the larger part of the task of incubation is performed by the female. At first the birds are quite shy, seldom venturing within gunshot, but they become much bolder after hatching has taken place, though they never, so far as I can ascertain, venture to attack an intruder. I have but once seen the young in the nest; they were a little more than a week old, and were covered with a dingy white down.

An interesting account of the capture of a White-tailed Eagle upon the nest has been recorded by the late Thomas Edmondston, jun., as follows*:—"For some years back a very expert and daring fowler, Joseph Mathewson by name, had been in the habit of annually robbing the nest of a pair of Ernes, which had from time immemorial built on a ledge of rock perhaps 400 feet above the level of the sea, on the north-west side of the island of Unst. This year he had as usual ascended the cliff for that purpose, but finding only two eggs (the Erne always laying *three*, of which one is barren), which he took, he returned after a few days to get the other, supposing it to be then deposited. The eyrie was built on a tolerably broad ledge of rock, and on coming up to one end of it, the nest being concealed from him by an outstanding piece of rock, he was aware of the bird being in it by seeing its

* Zool., 1843, p. 37.

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white tail projecting. He crept cautiously along the shelf till close to the Erne, and then suddenly raising himself, and throwing his body over the stone, seized the bird by a wing and leg. The so-called king (or in this instance *queen*) of the feathered tribes seemed completely cowed by his presence, and made no resistance to this rude and unexpected interruption; on the contrary, she merely opened her bill, apparently in a furtive attempt to call in the assistance of her lord and master, who, by the way, was soaring at a safe distance above, while this lawless 'spulzie' was perpetrating, and then resigned herself to her fate. The non-resistance of the bird was the more singular, as one of the wings and feet and her head were entirely free, and the powerful struggle she *could* have made would have either soon freed herself, or, what is more probable, dragged the spoiler over the precipice. To use his own simile, she made no more resistance than had it been a hen or a goose in similar circumstances. He, however, seeing her thus passive, leisurely undid his garters, tied up the bill and feet, twisted the wings together, and the vulture-eagle lay in her own nest, bound, gagged, and powerless. The only path by which the man could return was too steep and difficult to allow of his carrying such a heavy bird, and consequently he was obliged to let her fall, and the unfortunate captive rolled down helpless through the air she had so often cloven with such ease and safety, and met an ignominious death on the rocks beneath. The successful fowler retraced his steps by another and safer path, and secured his prize, which, with the egg obtained at the same time, is now before me, being in the possession of my uncle, Thomas Edmondston, Esq., of Buness. The nest was constructed chiefly of heather twigs and the dried stems of *Laminaria digitata*, uprooted and cast ashore; it was lined with wool, feathers, and "*sinna*,"* and contained few of the remains usually found in the nest of birds of prey, as the young ones had not come out; but a dead guillemot and two kittiwakes were found, which renders

* This name is given to the withered herbage of the previous year.

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it probable that one bird feeds the other while sitting on the eggs. It is also asserted that the male regularly takes his turn at the duty of incubation. The stomach contained, among some newly-digested fragments, an entire puffin."

In a footnote to the above, Mr Edmondston adds—"I may mention a curious circumstance which happened to him two or three years ago with the same pair of birds. In getting to the eyrie he found two young ones in it, but thinking them too young to remove, he only took the odd egg always found, intending to return in a few days for the young, which he did, but found that the old birds had removed both nest and young to a considerable distance from the first place, and on the other side of a deep creek or 'gyo,' as it is vernacularly termed, and there the nest has remained ever since."

THE OSPREY.

Pandion haliæëtus.

FISH HAWK.

In the Shetland Islands the Osprey is known only as a straggler, appearing at long and uncertain intervals, and then, as a rule, but singly, although my brother-in-law records the simultaneous appearance of three or four in the spring of 1843, and of a pair some years previously. Specimens are very seldom procured, but when one of these birds chances to be in the neighbourhood it is so sure to resort sooner or later to the best locality for sea-trout, that by concealing one's self near the mouth of the burn an excellent view of the bird may be obtained. It is generally shy, but, like most rapacious birds, will become almost heedless of danger when bent upon remedying the occasional long periods of fasting to which their mode of living subjects them. One autumn morning, as I was walking along a cliff above the sands at Burrafirth, an Osprey swooped down within ten feet of my

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head towards the mouth of the large trout burn, rose with circling flight, and after poising himself for a single second, dropped like a stone into the water. Although but partly submerged, the spray caused by the descent almost concealed him from view, but in a marvellously brief interval he was making off with a fine sea-trout in his talons, to a boat moored at a little distance, where, considering himself safe from interruption, he perched upon the gunwale, and then finished his meal. This same bird was shot and brought to me a few days afterwards, and proved to be a very handsome male.

A singular instance of sudden terror instantaneously subdued occurred near the same spot. Seeing an Osprey with a fish in his claws flying across the water, at a considerable distance from the surface, I ventured a shot with a ball, missing as usual. With a start and a cry, possibly of alarm at the sound of the missile, the bird suffered its prey to fall, but the latter had only dropped a very few yards, when, with a sudden dash, it was recovered while yet in the air, and carried away to the summit of an opposite cliff, where by means of my telescope I watched the subsequent repast.

Again, at the same place, an Osprey was observed to carry a fish to the gunwale of a boat anchored off the bay, and begin feeding. By the time the fish was probably about half devoured, by some unaccountable mischance it was allowed to slip overboard. In this case the bird behaved very differently; for, instead of attempting to recover the lost morsel, which might have been done with the greatest ease, it merely looked at it with outstretched neck for a few moments, and then flew away.

Although the Osprey will sometimes alight upon a flat surface for the purpose of devouring its prey, it seems to prefer a railing, the top of a wall, an isolated rock, or, in fact, any situation from which it can readily observe the approach of an enemy. Nevertheless, most of those which find their way into collections are shot in such situations while absorbed

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in their occupation of feeding. In Shetland, where trout are abundant and but little care is taken to preserve them, it has but few persecutors; although in the hooded crow it finds both persecutor and friend, as I have at various times experienced to my annoyance. No sooner has the Osprey begun its meal than the crow, with repeated swoops and loud cries, compels it to seek some more peaceful spot, and, immediately after picking up such fragments as may have been dropped, returns to the charge again and again until the comfortless repast is at length finished. Led by the outcries and peculiar behaviour of the crow, I have sometimes endeavoured to stalk the nobler bird, but invariably without success, the latter never being allowed to remain long enough in one place to enable me to approach within shot.

The immediate calls of hunger being appeased, the Osprey flies rapidly away, usually soaring with no perceptible motion of the wings, and in the most graceful curves, until it attains a height to which the eye can scarcely follow without pain. This habit has been regarded by naturalists as a means of procuring rest, a *siesta* in fact, far beyond all molestation,—a theory, however, recently demolished by the Duke of Argyll, who clearly proves that the muscles immediately connected with flight are never in such a severe state of tension as when supporting a bird upon motionless wings.*

I have not had the opportunity of preserving more than a few specimens, but, judging from my own experience, I would advise the possessor of one in the flesh to lose no time in skinning it; for, like most fish feeders, it very soon begins to

* The Duke remarks upon the above—"The passage refers, no doubt, to my chapter on Flight in the 'Reign of Law,' in which I state and explain that the feat of standing still in the air is one of the most 'difficult feats of wingmanship.' I do not think, however, that it follows from this that birds can never sleep on the wing; because they may sleeep more or less when they are 'sailing' or 'soaring,' although I do not think it all probable. In none of these forms of flight is the bird *stationary*." In illustration of the difference here pointed out, I can only too confidently quote an instance of a tired man going to sleep while walking, and continuing to walk some few paces before awaking. The sleeping for ever so short a time without falling is scarcely conceivable if one were standing still —Ed.

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decompose, when of course the feathers easily fall out. It is often difficult to pass the skull through the skin of the neck, still more to draw it back again without tearing the skin or pulling out the feathers. In such cases, it is advisable to slit the top of the skull longitudinally, and by pressing it in the opposite direction to cause a slight degree of compression by the overlapping of one of the bones upon the other.

THE GREENLAND FALCON.

Falco candicans.

ICELAND HAWK.

Those who have taken the trouble to read my various scattered notes on the Iceland Falcon will agree with me in considering it rather fortunate than otherwise that my acquaintance with that species and the Greenland Falcon had been comparatively slight, otherwise the confusion I assisted in promoting would have received a yet greater addition; but it was scarcely probable that I should be able to avoid the stumbling-block which our highest authorities in such matters have only succeeded in removing within a very recent period. In Shetland *Falco candicans* is decidedly the more frequently met with of the two, notwithstanding my almost invariable error in reporting it as the Iceland Falcon. Chiefly on account of its whiter appearance and its greater powers of flight, it is generally taken to be the adult "Iceland Hawk," while the darker bird, the true *Falco Islandicus*, is regarded as the same species in an immature state. Were this the case, the adult would scarcely be the commoner.

A specimen of *Falco candicans* shot on the 3rd of March 1866 in the island of Balta, now in the possession of Mr Gurney, Jun., and supposed by me at that time to belong to the other species, puzzled me not a little, naturalists placing great confidence in the idea that in one the bars upon the tail were alternate, in the other continuous. In this example, however,

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the right feather of the middle pair in the tail has the bars continuous, while on the left feather of the same pair all the bars are alternate, with the exception of the two bars nearest the tip. It has been considered remarkable and somewhat suspicious that in both birds the markings on one side do not always correspond with those on the other, but the same is the case with the snowy owl, and would be far more frequently found to occur with many other species were it not the almost invariable custom of describers to examine one side only of the bird.

The Greenland Falcon should perhaps be considered impetuous rather than bold. It may often be seen dashing past dovecots and roofs of houses in the vain attempt to cause the pigeons to take wing. I have observed it equally unsuccessful in its endeavours to drive them from the top of a corn-stack far distant from home. They merely crouch the closer, waiting for an opportunity of making their escape. Upon one of these occasions the Falcon, giving up the attempt, had flown seawards, disappearing from my sight immediately afterwards. Then the terrified pigeons, rising one or two at a time from their crouching position, began to look about them, and, gradually recovering from their alarm, made off in a body for the dovecot, about five hundred yards distant. Scarcely had they got fairly under way, when, to my astonishment, one of their number fell headlong to the earth, some distance in front of me, with such force as fairly to *ricochet* along the surface, the feathers flying in all directions. On running up, I found it quite dead, with a deep gash the whole length of the back. On looking for the Falcon it was discovered hurrying away towards Balta, and I never saw it again, although the pigeon was left on the spot where it fell, and a careful watch was kept during the remainder of the day. I am told that it seldom or never strikes resting birds, although it will occasionally "lift" them as well as rabbits.

Not unfrequently, a pigeon when closely pressed will take refuge within an open door (open *windows* are rarely seen in

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Shetland), the Falcon pursuing it to the very threshold, sometimes even entering in its blind haste. I shall never forget the Babel of sounds which arose from the breakfasting farm-servants one fine Sunday morning, when a terrified pigeon dashed into the kitchen, with a beautiful Greenland Falcon within a few inches of it. The robber, however, made his exit almost as rapidly as his entry, and the panting fugitive, after allowing itself to be taken up and fondled, was soon restored to liberty without having received any injury.

The flight is extremely rapid and vigorous, and, when exercised in the pursuit of prey, is if possible even more so than that of the Peregrine; but it would be difficult indeed to decide which is the more graceful when endeavouring to rise above an active and vigilant quarry.

The prey is usually carried off to some favourite spot previously selected for the purpose, such as a large rock or a grassy knoll, from whence an extensive view in every direction is commanded. Surrounding one such knoll, which had been in use for about a week, I found the remains of rabbits, golden plovers, snipes, dunlins, ringed plovers, snow buntings, a kittiwake, a water rail, rock doves, and domestic pigeons. The latter must have been carried fully three miles, as there was no dovecot within that distance, and the pigeons were not given to ranging.

A friend who knows this bird well, and who was stationed for a considerable time at Hudson's Bay, informed me that one forenoon, when there was a quantity of offal lying about, he shot no less than eight, without having occasion to move more than a few yards from the door of the tent. The narrator still dwells with evident feelings of pleasure upon the excellence of the soup thus furnished to the entire party!

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THE ICELAND FALCON.

Falco Islandicus.

ICELAND HAWK.

It is only since my departure from Shetland that the consequent opportunities of examining specimens and referring to books have enabled me to recognise in the true Iceland Falcon the species which I had for so many years believed to be merely the young of *Falco candicans.* Having now carefully corrected my scanty notes, rejecting all which appeared doubtful, and therefore useless, I can now speak with confidence of the two as separate species.

Until within the last fifteen years, the Iceland Falcon used to visit these islands, Unst especially, with some regularity, between autumn and spring, usually after a snow-storm accompanied by a heavy gale; now, however, two or three years may pass without the appearance of a single individual being recorded. I saw the last in February 1871, when two, possibly a pair, visited Balta Sound, and remained there several days, keeping mostly near the beach, and feeding upon the snipes and starlings which had been driven from inland by the frost. I kept them under careful and almost constant observation, and could distinguish but little difference between their habits and those of the preceding species, except that these, although occasionally coming near the pigeon-boxes and poultry-yards, seemed more inclined to avoid the haunts of man. Although the two birds were seldom more than half a mile or a mile apart, each hunted independently for itself. Once, when the larger of the two struck a rock dove into the water, the other came up hurriedly, but whether with a selfish motive, or with a desire to render assistance, is uncertain. Both, however, hovered about the victim for nearly a quarter of an hour, but without attempting to recover it.

In 1858 I was shown the moth-eaten and otherwise dilapidated skin of a male which had been killed in Unst about a

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year previously, and in the autumn of the same year was barely able to recognise the remains of one among the drift upon the sands at Norwick. I have only had one other in my hands. It was shot at Burravoe, in the island of Yell, in March 1868, while sitting upon a wall devouring a tame pigeon. Although unable to procure it, I took down a careful description of it under the name of *Falco Gyrfalco*. The bird is so well described and so accurately represented in the new edition of Yarrell's "British Birds," now in course of issue, that it would be useless here to introduce extracts from my own notes made at the time.

THE PEREGRINE FALCON.

Falco Peregrinus.

GOSHAWK—STOCK HAWK.*

With the exception of the Raven and the Hooded Crow, there is perhaps no bird so universally detested by the Shetlanders as the Peregrine Falcon. This is not so much on account of the mischief it does, which after all is not very great in the course of the year, as of the nature of that mischief, no pet bird or small animal being safe while the Peregrine is on the look-out for a meal. To this may be added the vexation caused by its impudence in snatching its victim from before their very face, as if mocking their inability to check its career, for very few Shetlanders would think of attempting to shoot any bird without resting the gun. Fortunately, however, the nest is so inaccessible, the bird is so wary, and its movements are so rapid and uncertain, that many pairs still remain to breed in these islands. Indeed, within the last few years the number has increased rather than otherwise, although previously

* "Several birds have with us this appellation ('*stock*') prefixed to their names, and these are generally the largest and most remarkable of their kind, as the Stock Owl, the Stock Whaap, &c. We think the term is derived from the Islandic 'Stakr,' meaning distinguished, rare, or remarkable."—(*Baikie and Heddle, Nat. Hist. Orkney.* Part i. p. 76).

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much reduced by the malpractices of a certain "sportsman," whose practice it was to lie in wait near the nest, and murder the parent birds as they returned carrying food to their young.

In spring and summer it confines itself almost exclusively to the cliffs in which it breeds, ranging widely over the neighbouring country as soon as the rock birds have taken their departure. Of course, like all birds of prey, it has but very few friends, and is regarded as a bloodthirsty robber, worthy to suffer death for his crimes; but although it does sometimes visit the haunts of man, with sudden swoop carrying off an occasional favourite rabbit or chicken, these visits are but seldom made. It is true that the havoc committed among the feathered tribes is something enormous, but its persecutors should remember that there is no game in Shetland, and that the birds killed are for the most part so abundant that their sum total is merely a drop in the ocean. As a fair average instance of the nature of the prey, I may mention that at one of the feeding-places I found the remains of the following ten species, viz.,—golden plover, peewit, ringed plover, curlew, puffin, wild duck, purple sandpiper, common gull, herring gull, and lesser black-backed gull. The whole of the above are so plentiful that it would require a small army of Peregrines to make any perceptible diminution among them.

In the month of September I have seen two of these birds, accompanied by two or three young ones as large as themselves, and nearly as strong upon the wing, in the rabbit warren at Balta; the parents stationing themselves upon the highest ground, as if for the purpose of keeping watch, and the young ones skimming over every part of the warren, frightening the rabbits considerably, but never, so far as could be observed, catching one.

The Peregrine is said to pair for life, and the observations of most recent ornithologists seem to confirm the supposition. Like the Eagle, it will lay year after year in the same spot, even when repeatedly robbed of its eggs. I am now almost convinced that although it will sometimes occupy a nest of

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some other bird, it builds no nest for itself. The pair begin to haunt the neighbourhood of the breeding-place as early as the beginning of March, even though there is no work to do, the eggs seldom appearing before the end of April. Eggs also occur as late as the middle of May, but Mathewson tells me that this is only the case when the first set has been removed. Four eggs are usually laid, but I have seen five. Those from the same nest generally resemble one another in size and colouring, but two sets from different nests often differ in both respects. It need scarcely be mentioned that the colouring matter very easily washes off; indeed, a Peregrine's egg, washed to an almost uniform pale reddish cream colour, was once brought to me as that of the Iceland Hawk. Several pairs breed regularly in the cliffs of Unst, but it is seldom that either the eggs or the young are obtained, the situation chosen for them being so especially difficult of access. I have only on one occasion succeeded in obtaining a near view of a Peregrine's nest, and that one had most certainly been the property of ravens. The young Falcons had left it about a week previously. The rock climbers can give me no reliable information as to whether it ever builds its own nest. Although the Peregrine is very destructive to wild fowl of all descriptions, kittiwakes seem to be its favourite prey during the breeding season, probably because they are not only exceedingly numerous, but very easy to catch. James Gray, another of our Unst fowlers, tells me that once, when the young were nearly fledged, he was shooting kittiwakes in the cliff; and that, as the first one fell, a female Peregrine darted down, and seizing the dead bird before it could reach the water, bore it away to the nest. The same feat was repeated a second time, and even a third time, after which his astonished friends in the boat below were allowed to pick up all the gulls which fell. It was from this very bird and her mate that Gray gained the greater part of his information as to the nesting habits of the species. He asserts that he nearly always leaves one egg in the nest the first time he robs it, and then three more are laid, but that if these also are

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removed, no more are laid until the next season. The old birds are much bolder than Eagles at such times, and fly close round his head during the whole of his unwelcome visit.

At all seasons, the Peregrine is especially partial to rock doves as an article of food; but so swift is their flight, and so perfect their command of wing, that they very frequently elude pursuit and escape to their caves. Long observation has convinced me that the Peregrine seldom or never *strikes* its prey while the latter is upon the ground; why, I am unable to conjecture, unless it be to avoid the sudden shock. Any person who has seen one strike a bird in the air must have observed that the force of the collision has caused a rapid descent of many yards, and it is easy to imagine that a very severe shock might be the result of a swoop upon an object resting on the ground.* It is highly probable that in striking a flying bird the hind claw only is used; for in newly killed specimens, blood, down, and feathers are frequently seen adhering to that claw alone. It is well known, however, that it sometimes takes its prey from the ground, but in a different manner. I have seen it leisurely follow a rabbit, and drop quietly down upon it as an owl drops down upon a mouse. There is no terrific swoop, and no long gaping wound is inflicted, for these are only necessary when the victim happens to be a bird driven by terror to its utmost speed. Several times, after a bird has been struck, I have picked it up with the head nearly torn off, evidently by the hind claw of the pursuer, although certain of our sages stoutly maintain that the Peregrine always strikes with its breast, or with "a particular part of the wing," and that they have even shot specimens having a peculiarly shaped bone in front of the breast, which was doubtless employed for that purpose.

Of its unwillingness to strike a bird in the water, I was once

* The author apparently forgets the day when we stood together as boys, and watched a sparrowhawk dash down upon a ground prey with such force that the concussion was loudly heard at the distance of some eighty yards. The bird lay motionless for a few seconds, but long before we could reach the spot, running as schoolboys might be expected to run under such circumstances, it was up and making off with its spoil, apparently none the worse.—Ed.

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witness to a well-marked instance. In January 1861, while crossing the marsh at the head of the Loch of Cliff, my attention was attracted by the struggles of two large birds upon the ground, about a couple of hundred yards distant. On my hastening to the spot, one of the birds, a Peregrine, skimmed hastily away, and soon afterwards the other bird, which proved to be a wild duck (*Anas boschas*) flew heavily for some distance up the deep burn which feeds the loch, and alighted upon the water. It appeared to have been so much injured that, thinking to be able to catch it, I followed it up. Upon my approach it rose and began following the course of the burn, keeping about ten feet from the surface. Immediately there was a rushing sound overhead: down came the Peregrine with the swiftness of an arrow, and the duck was only just in time to save itself by dropping hurriedly into the water, leaving its enemy to dash about fiercely far above; for the falcon rose to a considerable height the moment it missed the stroke. Again and again I put up the duck, each time with a precisely similar result, the Peregrine making a dash at the poor persecuted bird every time it rose, and the latter as regularly avoiding the shock by dropping into the water, where it was allowed to sit in perfect safety, and where instinctively it appeared to consider itself secure. At length, becoming much fatigued, it concealed itself beneath some overhanging weeds at the edge of the bank, from whence it no doubt beheld the departure of its two enemies with great satisfaction. The boldness of the Peregrine astonished me not a little. In its eagerness for the chase it became utterly regardless of danger, and several times came so near me that I could have easily reached it with a coach-whip. It appeared to be an old bird in magnificent plumage. A Peregrine may often be seen sitting upon a wall near a farm, or upon one of those large isolated stones which lie scattered so abundantly over the hill-sides; but I never knew it shot under such circumstances save once, when it happened to be gorged with snow-buntings. It is the almost invariable habit of the bird to drop over to the opposite side of

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the stone the very moment the would-be shooter comes to a stand, no matter how quick he may be, and to skim away along the ground under cover of it, not to reappear until far out of shot. Mr Gray observes that this bird is charged with sometimes leaving its prey untouched, as if it delighted in bloodshed merely for its own sake. Poachers of another race sometimes deem it advisable not to pick up their slaughtered game. It is necessary to observe that the Peregrine is frequently confounded with the Goshawk, by native ornithologists.

THE HOBBY.

Falco subbuteo.

In some parts of Shetland, especially in Unst, the Hobby is said to be of frequent occurrence, but it appears that under this term are included merlins, kestrels, and sparrow-hawks, according to fancy. Each of these has at various times been confidently pointed out to me as the Hobby; and even the shooting and production of one of the very birds, the Merlin for instance, does not always suffice to convince the assertor of his mistake. Many a kindly-hearted man fails to see that, as some one has very sensibly said, it is no moral reproach to a place not to possess a rich fauna, and fails also to understand the apparent suspiciousness of the wandering naturalist whose demands for evidence must necessarily become more exacting in proportion to the interest attaching to the alleged frequency of a species. As for the Hobby, it is hardly probable that a bird of its habits, scarce in Orkney, and far from common on the mainland of Scotland, should be of frequent occurrence in Shetland, and that too at all seasons. The late Mr Dunn makes no allusion to it, and it is a significant fact, that, until lately, no list of Shetland birds included both Merlin and Hobby, some lists giving one and some the other, but none giving the two. Notwithstanding my own anxiety to procure specimens, I have shot but one individual; and, although constantly

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provided with a good pocket telescope, have been able to identify but three more. All four of these occurred in autumn. When at rest its attitude is peculiar—very different from that of the Merlin; and by this alone it may be identified at a considerable distance. The one shot was a male in very handsome plumage, although it was very thin and light, as if it had long been without a sufficient supply of food. The stomach contained the remains of a mouse, and fragments of large coleoptera. One which remained at Balta Sound for nearly a week, but which was far too vigilant to allow a very near approach, did not appear to be very active during the day, keeping mostly to the tops of walls in exposed situations, and occasionally resorting to the half-leafless trees in the garden. Towards sunset, however, it would skim rapidly over the meadows, frequently alighting for a few seconds, and sometimes, though rarely, abruptly checking its flight as if to seize something in the air,—habits which caused strong suspicions that the bird might be the Red-footed Falcon. A steady examination by means of the telescope proved it beyond all doubt to be the Hobby,—a species with which I happen to be far less intimately acquainted. One was reported to have been killed in Bressay a few summers ago, but on inquiry it was clearly evident that the bird in question was a young Merlin.

THE MERLIN.

Falco æsalon.

MAALIN (*occasionally* HOBBY).

Of all the Shetland Falconidæ, this is by far the most abundant, being met with at all seasons, and occasionally in considerable numbers. Except during the breeding season, it frequents no particular locality, seeming to be equally distributed throughout the whole group of islands, its movements being chiefly influenced by the scarcity or abundance of food. It would be somewhat difficult to point to any unlikely

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place for a Merlin, no situation being unsuited to its habits. Upon the summit of the highest hills, it is constantly to be seen beating among the heather for such small birds as harbour there. In the wildest ranges of sea cliffs, it is similarly employed; in the marshes, it is constantly on the look-out for dunlins and snipes; upon the sea-shore, especially during the winter months, it may be observed sitting patiently among the seaweed-covered rocks, and not very easily distinguishable, waiting for the first flock of shore-haunting birds which may happen to skim past; and at any moment we may expect to see it at the kitchen-door, in search of some unsuspicious sparrow or mountain linnet, or dashing past the windows in hot and heedless pursuit of a terrified pigeon,—a bird which, though so much superior in weight, it nevertheless often succeeds in striking down. Sometimes, however, the pigeon is more frightened than hurt. One struck by a Merlin fell almost at my feet, panting for breath; on taking it up, I found a few loose and slightly blood-stained feathers upon the back, and when, after giving it a few minutes for recovery, I tossed it up, it flew off unharmed to its own home, which, by the way, it had scarcely reached, when the saucy little Merlin came dashing up, but only to retire in disappointment, after several vain attempts to make either it or its companions take wing.

It is by no means an uncommon occurrence for it to enter at an open door, through which its intended victim has fled for shelter, and occasionally it is itself made prisoner by the inmates. I remember shutting one up in a peat-shed, into which it had been attracted by a brood of young chickens. The indignant mother seemed desirous to avenge the insult in her own way, but a small hole in the eaves enabled the thief to elude us both. Such was his impudence, that not two minutes afterwards he was dashing about over the house, endeavouring to make the pigeons take flight. Birds, from the size of a wren to that of a golden plover or a rock dove, constitute its food, but it is said to feed also upon mice and insects. This, however, must be in times of great scarcity. I never

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found any such remains in the stomachs of the very large number I have examined; nor, it may be added, have I ever seen a Merlin otherwise than in excellent condition. It is especially destructive to common and snow buntings and starlings, but birds of the thrush kind are the great attraction. Even although no Merlin may have been seen for many days, no sooner do the passing flocks of fieldfares and redwings halt by the way for shelter and food, than the common enemy takes up his abode in the neighbourhood, and commits sad havoc as long as any remain.

Towards autumn, when the small birds descend from the hills, the Merlins follow them, sometimes singly, sometimes in pairs, but more frequently in family parties, consisting of two old birds and two or three young ones. It is not a little singular that although from four to six eggs are laid, I have never seen more than three birds in company with their parents. At this season, one or more may be seen sitting upon or near the top of one of the numerous "hay-coles," watching for the wheatears, mountain linnets, meadow pipits, and starlings, which the newly cleared fields have attracted. Next come the snow buntings, in multitudes, which, soon descending from the hills to the fields recently left by the reapers, form an unfailing supply of food for some weeks. Then, with the redwings and fieldfares, come the numerous finches and common buntings, which frequent the gardens in winter; and if the supply of these fail before the return of spring, the enormous flocks of mountain linnets, and the numerous shore-birds upon the beach, keep the ever-hungry Merlin very comfortably until spring, when the breeding-place is returned to, and the routine recommences. In the wildest districts, where there is neither attraction nor shelter for small birds, the Merlin merely pays flying visits, and is but seldom observed. In those very few instances in which the family party happen to be near a garden, the young birds are fond of concealing themselves among the bushes, dashing out with a great noise when a footstep approaches. The old birds, on the contrary, keep more to the

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open grounds, seldom resting near a garden except when pressed by hunger, or when small birds are unusually numerous. They may then be seen beating up and down until some poor victim, venturing forth, is instantly pounced upon and carried off.

It is asserted by some that young Merlins leave Shetland as soon as the winter sets in. Certain it is that the numbers decrease about that time, and that I have only shot old birds during that season. Looking over my notes, I find that all the adult males had the cere, tarsi, and feet deep gamboge yellow, more or less tinged with orange; the females and young having those parts sulphur yellow, rather darker in the young males.

Its habits, as most observers have remarked, are similar to those of the Peregrine, but with the exception that it is much bolder. I have repeatedly seen it, with rapid swoops and loud menacing cries, send a cat sneaking home from under a hedge, and I once saw it openly attack a full-grown hooded crow; only desisting when, attracted by the outcry, two old ones came hurriedly to the rescue. Although bold in many respects, it is as difficult to approach as the Peregrine, on open ground, and also has the same habit of dodging over to the opposite side of a stone or a wall. More than once I have known it seize a newly shot golden plover as it fell, and although unable to lift it many inches from the ground, and constantly compelled to drop it, make such good use of its opportunity as to be far beyond reach with it by the time the shouting and gesticulating shooter, having reloaded, was at liberty to follow in pursuit.

The name "Stone-Falcon" has been well applied to this species, its favourite haunt being the stone-bestrewn side of a hill, whether for the purpose of concealment from an enemy, or for that of watching for any unsuspecting victim which may chance to come flitting by. My first acquaintance with it was made under curious circumstances. I was returning home over a piece of stony ground one evening, when, looking round for some mark at which to discharge my gun before going

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indoors, I selected what appeared to be an upright splinter of yellowish-coloured stone about forty yards off. Remarking to my companion how greatly it resembled a bird, I took a deliberate shot at it, when, to my surprise, no less than to my delight, the supposed stone, spreading a pair of lovely wings, fell forward dead in the form of a Merlin—a beautiful male in perfect plumage. I concluded that, the stomach and crop being quite filled with the remains of small birds, the Merlin must either have been sleeping after his meal, or too heavily gorged to be willing to rise.

The eggs are often obtained, though not so frequently as one would expect. The nest is formed but very slightly, of dry grass with a little heather, and is usually situated upon the ground; or in a cliff, rather near the summit. I have had good proof that both birds take part in incubation. The young are kept well supplied with food; more golden plovers, snipes, and wheatears being brought to them than the hungriest brood can devour. According to my notes, fresh eggs may be found from the middle of April to the middle of May. There can be no doubt that dishonest dealers often successfully avail themselves of the temptation to pass off Kestrel's eggs as those of the Merlin, and indeed it is sometimes impossible to detect the fraud. Among the large number of Shetland specimens which have come under my notice, the greater number were paler and slightly rounder than Mr Hewitson's figure,* having a peculiar *dry* appearance, without the slightest gloss, and looking altogether as if they had been shaped from pieces of pale red brick. Those of one set, however, were very dark in colour, being of an almost uniform deep brown, plentifully besprinkled with minute black dots.

I have often noticed the Merlin's habit, referred to by Mr Gray, of frequenting roofs and chimneys. Those of Buness, the highest house in Balta Sound, are much resorted to; partly on account of the numerous starlings and sparrows which seek

* Eggs of British Birds, 3d edition, vol. i. p. 30.

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shelter among them, and partly, it is to be presumed, for the good outlook upon the well-stocked poultry yards below.

The Merlin is very easily tamed, and soon becomes a most docile and intelligent pet. I remember one which was allowed full liberty, and could at any time be instantly recalled by waving about in the sunlight a tin basin in which the food was usually kept. The distance at which this was perceived, and the rapidity of the return home, would appear almost incredible if described.

Falcons kept in confinement are liable to a peculiar disease of the feet, which often renders the bird useless, and indeed sometimes even proves fatal. I have always been able to prevent it, and sometimes to effect a cure, by allowing the bird a wider perch, or even a large stone with a rounded top; for it is easy to perceive how readily, after a while, the soles of the feet may become injured by the claws, when the perch is not sufficiently wide to prevent the two from coming into contact. This fact may be well known to falconers and others, but it was so long before I was able to ascertain the nature of the so-called disease, that I here mention it for the benefit of others in similar perplexity.

THE KESTREL.

Falco tinnunculus.

MAALIN.

The Kestrel so very rarely falls into the hands of the Shetland people, that, for want of the opportunity of observing it closely, they consider it to be identical with the last species, merely regarding it as an unusually red coloured "maalin,"—an appellation, by the way, which also includes the sparrow-hawk.

With us it is migratory and local in its habits, appearing in comparatively small numbers in spring, and usually resorting to the same cliffs year after year for the purpose of breeding.

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I can find no record of its occurrence in winter, its absence at that time of the year being probably caused by defect of food; for although it will occasionally prey upon birds, neither mice nor insects are then to be obtained. In Orkney, where it resides throughout the year, these are more abundant in the numerous gardens and enclosures in which Shetland is wanting. There being no tall trees, and but very few old ruined buildings of sufficient height, the Kestrel invariably breeds in the cliffs, particularly favouring the islands of Unst and Fetlar in that respect, their greater fertility being, perhaps, more favourable to the production of its natural food. It is not unlikely from a similar cause that it breeds with tolerable regularity in the island of Bressay; at Mid-Yell voe, and at West Sandwick, in the island of Yell; and at North Mavine and Scalloway on the Mainland. There may be many other breeding-places, but it is difficult to procure accurate information upon the subject from the inhabitants. Whatever may be the case elsewhere, here at least the Kestrel will sometimes prey upon birds. Only a few years ago I drove one from the body of a newly-killed blackbird, the brain of which had just been removed. I still have the skull in my possession as a memento of the circumstance. I have also upon several occasions found remains of small birds in the stomach, and once saw it in full pursuit of a common bunting, the latter escaping beneath some bushes, where I afterwards found it panting and with outspread wings, in a state of complete exhaustion. Another popular error is the supposition that birds are not alarmed by its presence, and that it may hover about a poultry-yard without exciting the smallest fear on the part of the inhabitants. No doubt it resorts thither more for the sake of mice than with the intention of disturbing the chickens, but if one's own eyesight may be believed, poultry and the smaller birds, even golden plover, are as afraid of the Kestrel as of the Merlin, or even as of the Peregrine itself.

I was at first not a little surprised on observing the exceedingly pale and faded appearance of the plumage of Kestrels

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killed in Shetland, especially in autumn; but this may easily be accounted for by their constant exposure to the damp sea mists, both during the time of incubation and while hovering about the country in search of prey, the red colours in the plumage of most birds being the most liable to fade.

THE GOSHAWK.

Astur palumbarius.

It cannot be otherwise than gratifying to ornithologists to be assured upon such good authority as that of Mr Gray,* that although the Goshawk is rarely met with, it is not so exceedingly scarce in Scotland as was formerly supposed. In Shetland, however, it is almost unknown, the only recorded instance of its capture having occurred in the winter of 1860, when a female was shot at Skaw, in the island of Unst, the bird soon afterwards coming into my possession. On my showing it to an inhabitant, who had confidently maintained that both the Goshawk and the Peregrine Falcon still bred plentifully in that very island, he utterly failed to identify it, neither could he describe any of the main points of difference between the two species. Thomas Edmondston, misled by the confident assertions of previous authors, but receiving their statements with caution, merely remarks of this species, "Rare, but I believe occasionally breeds,"† and to this Mr Harting refers in his useful "Handbook of British Birds." Messrs Baikie and Heddle, however, more than probably have good grounds for stating that it is frequently observed in Orkney, and that "apparently some remain during the whole year"—the ornithology of the two groups of islands being so widely different in many respects.

In April 1859 I saw one in the rabbit warren in Balta. It twice passed close to the spot where I was sitting, and being perfectly acquainted with the species in a wild state, as well as

* Birds of the West of Scotland, p. 37. † Zoologist, 1844, p. 459.

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in almost every stage of plumage, I experienced no difficulty in identifying it. The above are the only two occasions upon which it has come within my own observation, but throughout the whole extent of Shetland I have never met with any person who could satisfy me that he had even seen it, or who had the slightest idea how to distinguish it from the Peregrine Falcon. Specimens of the latter in my collection were as often called Goshawks as by their own name.

THE SPARROWHAWK.

Accipiter nisus.

MAALIN.

This species is not included by Dr Laurence Edmondston in his list, which appeared in the fourth volume of the Wernerian Memoirs, but his brother Arthur, writing in 1809, some years previously, when the bird was more abundant, mentions it as follows:—"*Falco nisus.* The Sparrowhawk is more numerous than the former [Goshawk]. He is a very bold bird, and pursues starlings and other small birds down chimneys and in at windows, and he is sometimes taken himself on these occasions."* In the "Zoologist" for 1844 (p. 459), Thomas Edmondston reports it as "not common," and the same may be said of it at the present time, although a few breed here. In Orkney it is abundant; and, from all that can be ascertained, it was certainly far more plentiful in Shetland many years ago than it is at present; from what cause it would be difficult to determine, unless from its boldness having rendered it a somewhat easy mark to the more numerous gunners of later times. The few nests I have seen and heard of have usually been situated in the grassy ledges of sea cliffs, but I have twice known a pair build in the rugged inland cliff at Colister in Unst. The Sparrowhawk arrives about the end of April, and is not much seen until the summer months are

* View of the Zetland Islands, vol. ii. p. 230.

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nearly at an end, when it begins to pay frequent visits inland, and to the lower grounds. At Buness and Halligarth it is often observed in the gardens, being more partial to trees than our other hawks. There it begins to seek its prey a little after sunset, either sitting in the trees and dashing out after the sparrows as they come to roost, or deliberately snatching them off the branches after they have settled for the night.

Later in the year it resorts to the corn-yards, dodging actively among the numerous irregularly placed small stacks, sweeping off twites and buntings to its heart's content, and occasionally dashing out like lightning among such stray chickens, or even pigeons, as may happen to be feeding near. Sometimes it is seen upon the stony hill-sides searching for beetles.

One which had probably been thus engaged met its death in a very singular manner. I discovered it dead, with its neck tightly jammed in a crevice between two stones at the foot of an old ruined wall; had it been able to lift its head upwards for another couple of inches, it could easily have escaped. That the poor bird had not experienced greatly prolonged misery was evident from its excellent condition.

The instances which have been recorded of the audacity of this species are innumerable. One evening, as I stood holding a fluttering brambling in my hand, a female Sparrowhawk came dashing past, certainly within arm's reach, at the same instant uttering a shrill chirping cry; in a few seconds it returned, but keeping a more respectful distance. It then seemed inclined to go off to the hills, but, on my tossing up the bird, returned once more, when I shot it. So far as I am aware, the Sparrowhawk invariably leaves these islands on the approach of winter.

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THE KITE.

Milvus regalis.

The Kite appears in Thomas Edmondston's list* as a rare straggler: he had met with it on two occasions himself. A very intelligent and trustworthy man told me that several years ago, about the end of the spring, as nearly as he could recollect, he saw one sitting upon the roof of his byre a little after sunrise. Having been repeatedly robbed by it of his laying hens, he was all prepared for the chance, and, creeping out, knocked the bird over as it sat. He knew it to be a Kite, because, in a book the minister of the parish had once lent him, it was described as a bird of a reddish colour, about two feet in length, and having a forked tail. As he had frequently seen the bird flying above him, the distinctive character last mentioned had especially attracted his notice. No person in the island taking an interest in natural history at that time, he cut off the wings to amuse his neighbour's children, and threw away the carcase.

I believe I have seen the Kite four times in Shetland, but have no further evidence than that upon each occasion I could merely distinguish high up in the air a large bird somewhat resembling an eagle, but with longer wings and with a deeply forked tail. It is not included in Dr Arthur Edmondston's list.

THE COMMON BUZZARD.

Buteo vulgaris.

This is another of the numerous species for which the Peregrine Falcon has been mistaken. In May 1858, after a run of steady south-east wind, I saw one resting upon a heap of stones at Uyea Sound in Unst. Having made this species a special study a few years previously in North Wales, I was immediately able to recognise it. There is no other record of

* Zool. for 1844, p. 459.

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its occurrence in Shetland, so far as can be ascertained. In Thomas Edmondston's list he asserts that it is "resident, but not common," and that "a few pairs breed in the higher cliffs," but in a MS. note he owns that he has been misled. Messrs Baikie and Heddle do not include it in the Orkney list, but merely allude to its mention by Dr Laurence Edmondston as "annually migratory" in Shetland, a statement in which there is evidently some misapprehension.

THE HONEY BUZZARD.

Pernis apivorus.

Among the many scarce and unlooked-for birds which have been procured at Skaw, the northernmost extremity of Unst, the Honey Buzzard claims a place, an individual having been killed there and brought to me in the winter of 1862. I saw the moth-eaten skin of another which had been shot at Burravoe, in Yell, two years previously. No other instances have been placed on record, and I cannot ascertain that it is included in any list of Orkney or Shetland birds.

THE MARSH HARRIER.

Circus æruginosus.

In these islands, as in Orkney, the Marsh Harrier is a rare species, never having been known to breed in either group. It appears at very uncertain intervals, and does not remain long in one district. My own observations, so far as they go, confirm Mr Gray's opinion that most of the Scottish examples are birds of the first and second year's plumage. Under the name of "Moor Buzzard," Dr L. Edmondston gives it a place in his list of regular migrants.

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THE HEN HARRIER.

Circus cyaneus.

It must be by an oversight on the part of Mr Dunn that the Hen Harrier finds no place in his account of the birds of Orkney and Shetland, for in his time it was not uncommon. Its omission from the catalogues of the older writers may probably be attributed to the accommodating Goshawk, whose name was made to suit every large hawk of doubtful species. Thomas Edmondston, with his usual acuteness of observation, did not fail to recognise it, but from the fact of its being of less frequent occurrence in his native island (Unst), he was led to infer that it was somewhat rare, and that the fact of its breeding in Shetland was doubtful. In the winters of 1869–70 and 1870–71, it was much more numerous than it had been for some years previously. I have occasionally seen the eggs, and once found a nest in the island of Yell, situated among some rather tall heather, and containing four eggs, three of which were nearly white, although the fourth was rather more spotted than the one represented in Mr Hewitson's work. They were deposited upon a few blades of dry grass, in a hollow which had been scraped away for the purpose. This was at the end of the third week in May. Its near relationship to the owls is as evident in the colour of the eggs, and its general structure and appearance, as in its somewhat low, buoyant flight, and its owl-like manner of dropping softly upon its prey, although it will sometimes pursue even a large bird in open flight and capture it on wing.

The golden plover is a very favourite article of food, but it is fond of resorting to the farm-yards for the sake of procuring small birds, or even chickens, though it is rather shy of the latter, being in great dread of their natural formidable protectress. In hard weather it is often seen upon the shore at low water, not only in search of snipes and tringæ, but also of small fish, as I have clearly ascertained by dissection. As a rule, it remains longer in one neighbourhood than the Marsh

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Harrier, and, although very difficult to approach in open places, may be obtained by hiding about stacks and outhouses early in the morning. Being much more abundant in Orkney, it is not surprising that more are met with in the southern districts of Shetland than in the northern. It may now be considered rare, even as a visitor.

II. *STRIGIDÆ.*

THE EAGLE OWL.

Bubo maximus.

CATYOGLE.

The fact of the Eagle Owl having acquired a local name ("Stock Owl") in Orkney, may be regarded as a nearly conclusive argument in favour of its reputed frequent occurrence there many years ago. In Shetland it was certainly oftener seen than at the present day, but not so often as Dr Arthur Edmondston's account would lead one to suppose. At the time he wrote, all owls were known to the natives, as indeed they are even now, by the name of "Catyogle;" and the Snowy Owl not then having been recognised as a British species, he was so far confused in his ideas upon the subject as to commit himself to the following statement:—"*Strix Bubo, Catyogle,* Great-horned Owl.—This bird long inhabited the island of Unst, and constructed its nest on the tops of rocky hills, but is now very scarce. I have repeatedly seen five or six of them together in day-light; they feed chiefly on rabbits, of which there are great numbers in Balta and some other islands in the neighbourhood of Unst." No other species of owl is included in the list. Although, like most of his contemporary naturalists, but too ready to give credence to the assertions of the ignorant, the doctor's well-known regard for strict truthfulness renders it impossible to doubt that the above statement was made in the most perfect good faith; therefore

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I can only conclude that, being somewhat short-sighted, he was deceived in this instance as he was in many others.

The Eagle Owl had not been observed in Shetland for several years, until in the autumn of 1863 Robert Nicolson saw one in Unst. It was sitting upon a stone on a low piece of ground near Haroldswick, and allowed him to approach very near. He described it as being about the size of a Snowy Owl, but much darker, "with ears like a rabbit's, only sticking out from each side of its head." He also said that he had seen a bird of the kind only twice or thrice before, and that in all cases they were remarkably tame.

It has been my own lot to meet with this magnificent bird only once. This was in Balta early in March 1871. It was sitting upright upon a large stone on the east side of Balta, and was so little alarmed by my sudden appearance above the brae, that it merely flew for about two hundred yards and realighted. When I returned a few days afterwards, having been detained by rough weather during the interval, it was nowhere to be found, although some people had observed it several times in the small island of Hunie, a little further southwards, in which also rabbits abound. Surrounding the large stone upon which I had first seen it, were numerous pellets of rabbits' fur and bones, showing the place to be a favourite resort. The flight, though vigorous and rapid, struck me as being less buoyant than that of other owls.

THE LONG-EARED OWL.

Otus vulgaris.

Only one specimen is mentioned by Messrs Baikie and Heddle as having been killed in Orkney, and I have not succeeded in obtaining any information as to its occurrence in Shetland previously to the 28th of October 1868, when, after a strong north-west wind, I shot one in the garden at Halligarth, which it had been haunting for some days. Again, on the 3rd

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of November 1870, a pair were killed at the same place, also after a north-west wind. I was surprised to find that in all three examples the stomach was quite filled with remains of mice, although the garden was swarming with small birds, such as chaffinches and mountain linnets. A fourth specimen was sent to me by Thomas Edmondston, Esq., of Buness, in whose garden it had been killed in the winter of 1871. It is scarcely probable that during my long residence in Shetland I could have previously overlooked so conspicuous and remarkable a species; therefore it is not a little singular that, being previously unknown, four examples of it should have occurred during as many successive years. It may very possibly visit other parts of Shetland, where the attempt to raise shrubs in sheltered gardens has succeeded, but hitherto no authentic instance has been recorded.

THE SHORT-EARED OWL.

Otus brachyotus.

CATYOGLE, GREY *or* BROWN YOGLE—HAWK OWL.

This was doubtless the "Screech Owl" or "White Owl" of the earlier observers, no mention of it under its usual name being made, although it is quite common in spring and autumn, on rare occasions even remaining to breed in Yell and Mainland. The average times of arrival are April 25th and October 16th. The eggs have been sent to me from Yell, and once in the month of June I found a nest of young among the tall heather between Bardister and Ollaberry, in North Mavine; but I feel it unnecessary to enter into details, trusting that all who read these pages are well acquainted with the description contained in Mr Crichton's "Naturalist's Ramble to the Orcades," and with the charmingly natural group and surroundings which appear as a frontispiece to his as charming little book. The number of eggs laid by the Short-eared Owl still seems to be unsettled by ornithologists; for like many of the

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family, the bird begins to sit as soon as the first egg is laid, depositing others at irregular intervals.

I have observed this species hunting both by day and by night, and have several times crept close up to it as it stood sleeping upon a slight elevation at the foot of a stone or a wall, sheltering itself from the wind rather than from the snow; for it entertains a strong dislike to the wind, although often compelled by necessity to brave the fury of the heaviest gales. These must greatly interfere with the procuring of food. During a long run of wet and windy weather the poor birds are often picked up among the heather, either dead or in a state closely approaching starvation.

I have seen four individuals on wing at one time, no two of which were precisely alike in general colouring. The numerous specimens obtained have varied greatly both in tint and markings. Birds coming in autumn are often richly coloured, while those which arrive in spring present a pale and bleached appearance. In Shetland, where alone I have had the opportunity of examining the stomach, the food consists of birds of various kinds, insects, and mice, the latter being greatly preferred.

(*Note.*—The Barn Owl, *Strix flammea*, although included in most lists, does not occur here, even as a straggler. Shetlanders hearing and reading of the "*White* or Barn Owl" are apt to confound it with their own truly White Owl, *Surnia nyctea*, and make misstatements accordingly.)

THE SNOWY OWL.

Surnia nyctea.

CATYOGLE.

It is somewhat unaccountable that so conspicuous a bird as the Snowy Owl should have been almost entirely overlooked by British naturalists until about the commencement of the present century.

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That a remarkable and apparently uncommon species of owl was to be met with in various parts of Shetland, especially in the northern districts, had been suspected for some years previously by Dr Arthur Edmondston, who, having but few opportunities of visiting the particular localities, instituted inquiries among the residents; but, as he himself asserted, his efforts were either accidentally or intentionally baffled, the only information he could obtain being that the bird in question was "merely the common White Owl." Relying upon this, he completed his "View of the Zetland Islands" without making any allusion to the now well-known *Surnia nyctea*, which, however, was recognised and fully described very shortly afterwards.

From all that can be ascertained by questioning the most trustworthy of the inhabitants, it is evident that the Snowy Owl may be very scarce for several years, and yet during a following series of years be of such frequent occurrence as to be almost abundant,—a statement which my own observations seem to confirm. Writing to the "Zoologist" in 1863, I made the following remarks:—"Although at that time (1811) the species was far from being numerous, it has now become even less frequent, as well as rather irregular in its visits, two or three years sometimes elapsing without its appearance, while at other times two or three individuals appear almost simultaneously. Formerly it used to be met with among these islands, especially in Unst and Yell, at all seasons of the year; but of late it has been observed only between autumn and the end of spring, and then usually after a north-east or north-west wind. On referring to my note-books, I find the earliest instance of its arrival dated October 17th, the latest April 30th (1863)." Since that date, however, up to the present time, not one year has passed without several, sometimes many individuals, having come under my notice; not confining their visits to any particular season, but appearing frequently during the summer months, which were omitted in the above account. The island of Unst must certainly present some irresistible attraction to

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this species, for it is comparatively seldom met with in any other part of Shetland. Indeed, it will remain for several successive weeks without showing any desire to cross the sounds and visit the neighbouring country. The drier soil of Unst, the peculiarly suitable character of the hills, and the abundance of food of various kinds which it contains, probably form a sufficient combination of favourable circumstances to render further change unnecessary.

The first specimen recorded as having occurred in Britain is an adult male, shot in Unst in the year 1811 by Dr Laurence Edmondston, who soon afterwards presented it to Mr Bullock, accompanied by particulars respecting its habits. A full account of the bird, by Dr Edmondston, also appeared in the "Wernerian Memoirs" in the year 1822, since which time nothing further has been published in a collected form, although, in various Natural History periodicals, short contributions concerning it have been numerous. That it no longer breeds here is certain; and from the account given by the inhabitants, it is almost equally certain that the nest was occasionally found in Unst many years ago. Although at one period of his observations Dr Edmondston found reason to doubt the fact, he now reasserts his former belief. In 1822 he wrote as follows:—"I have not heard of its nest having been found either there [Shetland] or in Orkney, though, from meeting with it at all seasons, and from its constantly, during summer, frequenting the same situations in perfect plumage and well-developed sex, it is reasonable, perhaps, to conclude that it breeds in Zetland. Indeed, I remember an intelligent peasant of Unst, whose veracity and acquaintance with his native birds I had occasion to be satisfied with, assuring me of his having once, in the month of August, met with a pair of this species, having along with them two others, which he termed their young. One of these latter he shot, but unfortunately I was not aware of the circumstance until the specimen was destroyed. He described it as of the same size as the Snowy Owl; indeed, in every respect the same, but of much

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darker plumage; and this is all precisely what we should expect on the supposition of this species breeding in Zetland."

Some years afterwards Dr Edmondston received information that a nest containing three well-fledged young birds had been found in August, on a low rocky ledge not far from Balta Sound. The young were "of a brown colour, sprinkled with grey." While at rest during the daytime, its favourite haunts are exposed hills covered with large stones, upon the shady side of which it crouches; and although often difficult to approach on such occasions, its sense of hearing being very acute, it is nevertheless sometimes come upon unawares. A man in this island once crept up to a Snowy Owl and knocked it over with his stick, injuring it so little that he carried it home and kept it alive for some time. Now and then, too, we hear of boys pelting one with stones. When one of the birds is known to have arrived in this island, it is nearly sure to be discovered by any person who will carefully explore certain hills, which have always been preferred before all other situations. These hills are, however, strewn with large grey stones, intermixed with a few long-shaped white ones, and I know several stones which have been more than once carefully stalked by the would-be owl-slayer. But, after all, such an error may be in some degree excusable, for the bird is exceedingly difficult to discover while resting in such situations, closely assimilating as it does in colour with the surrounding stones; and any person who resolved to walk up to everything bearing a resemblance to the object of his search, would require for his purpose a large amount of patience, a very long pair of legs, and a very long day indeed. In the immediate neighbourhood of the most frequented places of retirement, large pellets of bones, skin, and feathers may always be discovered. I have never heard of an instance in which it has been met with upon the hills at night. It leaves them about sunset, and descends to the low grounds, returning early next morning. In these islands the hill tops are very frequently covered with snow, from which in the daytime a glare proceeds which is painful

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enough to human eyes. Under such circumstances the bird, doubtless, experiences no small amount of benefit from the exceedingly perfect nictitating membrane with which the eye is provided. Much discussion has from time to time arisen concerning the feeding habits of this species, some observers maintaining that it seeks its prey by daylight only, while others as warmly contend that it is exclusively a night feeder; but into this, as into most other arguments of a similar nature, the celebrated story of the chameleon might be aptly introduced. My own observations lead me to suppose that it feeds both by night and by day, although comparatively seldom during the latter period. My reasons for this supposition are based upon two very simple facts: first, that when the bird is seen during the daytime, it is nearly always in a state of repose; and, secondly, that those examples which are killed early in the morning or late in the evening have food in the stomach, while those procured in the daytime have the stomach either empty, or containing food in which the process of digestion is far advanced.

Although during the day the bird is generally enough upon the alert to avoid its enemies, yet upon some occasions its inactivity amounts almost to stupidity. Two years ago I met some men coming out of the island of Balta, who assured me that one of their number had just snapped his gun five times at a Snowy Owl, which only then became sufficiently alarmed to make its escape from the island. It was shot early one morning nearly a week afterwards, and in its stomach I found a young rabbit with the skin quite whole, but with the bones broken. Among other notes I find the following, relating to one of the few instances in which I have observed it on the feed in the daytime:—

"*Nov.* 2, 1860.—In Balta, as I suddenly looked over the wall which divides the island, I saw a Snowy Owl make a rapid stoop towards some rabbits, and rise again without touching them, at the same time uttering a strange rapid chirping noise, which must have been pretty loud, for I heard

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it distinctly, though at a distance of more than a hundred yards. The bird then flew straight off towards Unst. It was not so white as an adult. This occurred about noon."

In favour of its claim to be ranked among the day owls, I have noticed that it is able to see for a long distance, even at times when the sun is shining brightly. A flight of golden plovers passing very high above a Snowy Owl which was sitting upon my arm immediately attracted its attention. Too much value has evidently been attached to the fact that this species is very frequently met with between sunrise and sunset, for this is doubtless owing chiefly to the exposed nature of the ground which it frequents, and its consequent liability to disturbance. When the Snowy Owl appears in the daytime, gulls, hooded crows, and even starlings at once join in pursuit; but until the annoyance becomes absolutely unendurable, he usually regards them with contempt, being perhaps conscious of his own powers of wing and claw. The flight of this species is strong and rapid, very similar to that of the Eagle Owl, and having a sturdiness about it which is not observed among the smaller owls.

Guided by the observations of others, which, like my own, had been made only upon starving or severely wounded birds, it was my former impression that the Snowy Owl was docile and easily tamed. It has even been described as "an *amiable* owl." Experience has taught me otherwise, as will subsequently be shown. Robert Nicolson, a fisherman belonging to Unst, once kept a Snowy Owl for nearly two years. He had slightly wounded it while wandering among the hills near his own cottage, and he took it home with the hope of taming it; but he only partially succeeded, the bird never overcoming its natural fierceness, and showing especial animosity towards strangers. At first it was rather closely confined, but afterwards it was allowed the full run of the cottage, though not until the wings had been clipped. It used to sit in some dark corner during the day, giving but little notice of its presence; but as soon as all was quiet at night, it would leave its hiding-

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place and commence flapping and tumbling all about the cottage, upsetting everything which could by any possibility be upset, and tearing into rags anything in the form of clothing which had been incautiously left in the way. The cottage was under the same roof with the cow-house and barn, as is too generally the case in these islands, and after the Owl had ranged through these for a few nights, no mice were to be either seen or heard, although the place was swarming with them previously. Towards morning the bird gradually became quiet, and resumed its state of comparative inactivity until the following evening. It was fed upon rabbits and birds, but never seemed to require drink. Ducks and fowls were never safe when the door was open. Sometimes a living hooded crow was thrown down to it, and then a fierce encounter was sure to follow, but it was seldom of long duration,—sooner or later the head of the crow would be lying in one place, and the body in another. Once the Owl tried to kill a pig about a month old, but was detected in time; and upon another occasion it had the audacity to pounce upon a full-grown cat. It immediately attempted to bite off the head, and probably would have succeeded if the owner had not come to the rescue, for the cat was almost powerless in its grasp. The Owl often escaped, and was as often recaptured, until at last Nicolson, having become tired of stumbling over the rough ground in pursuit, resolved next time to leave it to its fate, and accordingly when it again escaped no exertions were made to recover it. It remained in the hills for upwards of two months, at the end of which time it was caught upon a low wall near the cottage, and was once more brought home. But there was no occasion to keep the door closed. The bird having probably become aware of the inconvenience of being compelled to provide its own meals, never again attempted to escape, nor could it be induced by any means to leave the premises. Few pets die a natural death, and this unfortunate bird proved no exception to the rule; for one night it got into the fire, and, before it could extricate itself, sustained such severe injury that it died

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very shortly afterwards. Another Owl of the same species, after being kept for several months, died after eating a small piece of salt fish. One kept by myself died at the end of eighteen months, still as untameable, and, except toward myself, as fierce as upon the day of his capture. This bird, having been slightly wounded by Nicolson, was brought to me on the 21st June 1864; and although its endeavours to escape ceased in a few hours, it was not in the slightest degree subdued, but was ready with bill and claw for the first hand which happened to approach within reach. My notes upon this individual being much scattered, I here collect them in a more convenient form, the greater part having already appeared in the pages of the "Zoologist:"—

"*June 30th*, 1864.—It is strange that although Snowy Owls will survive a heavy shot, a very slight wound is sufficient to bring them to the ground. My prisoner only received a mere scratch upon the back, and as soon as it came into my hands was able to fly all about the room; yet scarcely an hour previously, it had been brought down by the shot and carried off. The only way of accounting for this is by supposing that the contact of the shot conveying the impression that the enemy was at close quarters, the bird at once threw itself into the attitude of defence, and thus allowed itself to be taken by the hand. There is no doubt that if the man had not run up at once, the bird would soon have recovered from its surprise and made its escape. Like most other birds of prey, the Snowy Owl when wounded throws itself upon its back and strikes fiercely with its claws; and any person who feels inclined to handle an angry 'Catyogle' would do well first to examine some very ugly scratches upon the stock of a certain gun of mine.

"*Aug. 30th.*— The Snowy Owl is still as healthy as an owl can possibly be; it is a male, and must be of some considerable age, for it is much whiter than most specimens I have seen here. For about the first week of his imprisonment, he would not touch food, although I kept him as quiet as possible, and offered him various temptations in the form of birds of various

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sizes, rabbits, and raw meat For the first two days he was decidedly in the sulks, retiring to the most distant corner of the cage, and scarcely taking any notice of my approach; but afterwards he became more lively, and the moment I went near would dash wildly about, snapping loudly with his bill, and hissing in great displeasure. At length, fearing that he would starve, I was compelled to resort to main force, and accordingly fed him for several days with ringed plovers, which I pushed down his throat as far as I could reach, first cutting off their wings, legs, and heads. The process seemed rather to astonish him; and no sooner was the operation over than he stretched his neck, tightened the feathers of his head, so as to make it appear ridiculously small, closed one eye, inclined his head first to one side, then to the other, and altogether behaved in such an exceedingly comical manner that it was with no little difficulty I could identify the foolish-looking bird before me with the mighty *Surnia nyctea*, which always looks so solemn in books and museums. However, in a very few minutes afterwards, having been returned to the cage, he resumed his former grave appearance, maintaining it until he received his next meal upon the following day. I observed that the pellet of bones and feathers was never cast up sooner than two hours after a meal—sometimes it was much later. One lucky day, about a fortnight after he came into my possession, I found a dead mouse, and forthwith deposited it in the cage. Such a tempting morsel was not to be resisted, and upon my return shortly afterwards it had disappeared; the ice was fairly broken at last, and thenceforward he fed himself. After this I placed small birds before him regularly every evening, and they as regularly disappeared within an hour's time. For many days I endeavoured to get a view of the bird while in the act of feeding, and frequently spent an hour at a time peeping through a small hole in the side of the cage; but the time was spent in vain, for he would never touch his food while I remained near, although it was very soon devoured after my departure. I fed him regularly at sunset, and still

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continue to do so, never omitting a peculiar whistle when I bring him food. He very soon learned the meaning of the sound, and although at other times he regards my presence with great composure, the moment I make the signal near the out-house in which he is confined, I hear him jumping impatiently about the cage; and even when the food is concealed from sight, he flaps his wings, and comes as far as the netting will allow him, evidently showing that the object of my visit is perfectly understood. It is only of late that he has condescended to feed in my presence, and I have endeavoured to avail myself of the privilege to the utmost. The first thing I observed was the demolition of the fanciful theory that, because the feathers extend to the tip of the bill, this species never tears its prey. While he is feeding he raises and throws back these feathers upon either side, thus laying the bill completely bare. In some former notes I assert that the Snowy Owl almost invariably swallows its food whole. The assertion was amply justified by the observations of others, as well as by my own upon the bird in a wild state; but in confinement the reverse would seem to be more usually the case, as well with the other captives I have seen and heard of as with the bird I am writing about. Possibly, when in a wild state, he too used to swallow his prey hurriedly, and without tearing it; but now, fearing no interruption, he proceeds more leisurely, and devours it piecemeal. His habit is first to tear off the head, next to pluck out most of the quill feathers, and then to tear off and swallow large pieces of flesh,—and bone also, if the bird be smaller than a crow. He will proceed in the same manner even with a twite or a sparrow. When the bird or rabbit is thrown to him, he pounces upon it with the claws of one foot, sometimes of both. Occasionally, however, he will snap it up in his bill, and then, snatching it out with his claws, commence feeding in the usual way. During the whole process of feeding it is held down to the ground or the perch; and in tearing it he displays enormous muscular power, seizing the mass with his bill, and without any wriggling or twisting, raising the head

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steadily, and with the greatest apparent ease, tearing away both flesh and bone. When the prey is large, the first proceeding after seizing it is to nip it rapidly all over, beginning at the nape of the neck, the bones being heard to break with every closure of the bill. A young well-fledged herring gull furnishes him with a single meal, those bones which are not swallowed always being picked very neatly. In the daytime it is his habit to remain inactive as if asleep, although the slightest unusual sound is sufficient to put him upon the alert. Towards sunset he becomes brisk and lively, and shakes off all appearance of drowsiness. I used to give him a stone to sit upon, but now he prefers a thick round branch, which he seldom quits. I am surprised to find that in perching he places only two toes of each foot in front, the outer one being as easily reversible as in the osprey. He knows me well from other people, and seems pleased to see me; and although for the first few weeks all attempts at familiarity were furiously resisted, now, when I hold my hand above him, he merely snaps and hisses a little, but the moment I begin to stroke him upon the head, he closes his eyes and remains perfectly quiet. A few days ago I threw the food to the back of the cage, instead of to the usual place in front. This seemed to puzzle him a good deal; he repeatedly looked at it over his shoulder, and then at me; at last he opened his bill to its full extent, and gave forth a shrill chirping kind of scream, the first sound except a hiss that I ever heard him utter. It is not always that I can find time to shoot a sufficient supply of birds and rabbits, and fresh meat is a rarity only to be procured at certain times of the year. I am therefore often at a loss how to keep him constantly and sufficiently fed.

"*January* 31*st*, 1865.—The Snowy Owl, which has now been in my possession for more than seven months, has not yet moulted; only a very few feathers, apparently injured ones, having been cast in autumn. He has been gradually becoming tamer, and until lately very little wish to escape was displayed; but no sooner did the snow set in than he became restless, and

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soon tearing through the netting escaped into the outhouse, where he was discovered standing very contentedly upon a heap of snow which had drifted through the broken door. A few days afterwards he made a second escape, and was again found standing upon the snow. I would gladly have set him at liberty after this, but as he had received an injury in the wing in one of his attempts to free himself, and was therefore permanently crippled, I knew that death either by gun or starvation would be the certain result of such attempted charity, and therefore gave him his only chance of life by still retaining him as a prisoner. I used often to let him loose among the snow, but, singular to say, from the very day on which he made the escape above recorded, the wildness and ferocity of his nature was revived, and notwithstanding every method I could devise in order to win him back, he never afterwards made the smallest distinction between strangers and myself. As the next winter approached, the people of the house, having become tired of him, refused him any other shelter than that supposed to be afforded by an old ruined muddy cow-shed. They promised to feed him during my short compulsory absence. On my going to visit him at last in December, I found him lying dead in the mud, a miserable object, a mere heap of feathers and bones, and without a particle of food in the stomach. He had been in my possession just eighteen months, and most sincerely did I regret the poor bird's untimely end.

"I should have mentioned previously that during the first winter, not knowing where to obtain a supply of food, and having found by experience that he would not touch fresh fish, I appealed to Robert Nicolson, who solved my difficulty, as he had previously solved his own, by the simple method of rolling the fish among feathers before presenting it. In this disguise it was never afterwards refused."

Before leaving Shetland I read my notes on the Snowy Owl to Nicolson, afterwards begging him to inform me of any omissions, as well as of anything he considered remarkable in the

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habits of the bird. I give the result of his reply as closely as possible in his own words :—

As nearly as he can remember, he has bagged at least thirty specimens of the Snowy Owl in the island of Unst.

It (the Snowy Owl) is seldom killed outright. He thinks only three or four of the number were shot dead.

It often feeds upon beetles and spiders; he has found these in the castings,* and has seen the bird picking up moss in search of them. The bare patches in the moss have sometimes been the first hint he has received that the bird was in the neighbourhood.

When wounded it invariably throws itself upon its back, and defends itself with claws and bill.

The best time to go in search of it is in stormy weather, it then being unwilling to leave shelter; or immediately after a few rough days, when it becomes bold from hunger.

"Every owl likes to keep to its own hill, and comes back to it after a while if you drive it away."

It feeds both by day and by night, but mostly by night.

He has seen it catch skylarks and snow buntings upon the ground, dropping "sideways" upon them.

In eating a rabbit, if not hurried, it first breaks the bones, beginning at the head. "If you frighten it, it will most likely bolt the rabbit whole."

It seldom flies high, except when going to a distance, and it prefers to fly head to wind.

It is solitary in its ways; and even when there are two or three upon a hill, they do not as a rule keep together.

It is sometimes heard screaming when following its prey.

"When it looks at a small thing, such as an insect, it draws back its head and makes the eye very small."

"It always sits in a place where it can get a view all round."

"It can turn the head round so as to look over the back without moving the body."

* I myself once found beetles in the stomach.

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Prefers a solitary rock in an open place, where stalking would be difficult.

Arrives either with a south-east or a northerly wind, but usually with the latter.

Comes to the low grounds less frequently in the autumn, plovers and snow buntings then being plentiful upon the hills.

The number of Owls is certainly no less than when he was a boy; "but they take fancies, like the herrings, and will keep away from a place for years at a time."

When it crouches flat upon the lee side of a large stone, rain may be expected soon.

All animals are afraid of it, especially cows. "The old wives say that a cow gives bloody milk if it is frightened by an owl, and will fall sick and die if touched by it."

In stalking an owl, it is a good plan to plant a ramrod in the ground and let your handkerchief flutter from it; then, quietly withdrawing, to creep up behind the bird while its attention is occupied.

It most readily descends to low grounds in foggy weather. "When he does, he first of all lights upon a dyke or a stone, sets his feathers close about him, makes himself small and long-shaped, and looks all around; then he draws himself in close and full, and will sit there for a very long time if he does not see anything to catch."

"Sometimes the tame ones, in eating a rabbit, would remove the entrails and finish the meal with them, keeping a very careful watch over them in the meantime."

Having examined upwards of a dozen recent specimens and some scores of skins, I still, with deference to the opinions of others, can perceive no reason to alter one word contained in a paper of mine published in the "Zoologist" for 1863 (p. 8637), which I here transcribe:—

"It appears that the perfect plumage of the adult male is white, without spot, but that this state is not attained until after the lapse of several, perhaps many, years; and also that in younger birds the form, intensity, and disposition of the

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markings are very little if at all influenced by sex. I believe that the adult female also becomes white, and have seen one very nearly in that state. Full growth is attained about the end of the first winter, after which time size is a trustworthy indication of sex, the male seldom exceeding twenty-three inches in length, while twenty-six inches is the usual length of a female. The younger the bird the more do the dark marks, especially on the under surface of the body, partake of a barred appearance; the sharper are the edges and tips of the mandibles; and the broader and thinner, although no less keen, is the projecting inner edge of the middle claw. All of the claws are comparatively slender, and in colour resemble the bill, being of a bluish or greyish tinge, while in the adult those parts are black. Intensity of colouring has often been regarded as a mere indication of advanced age, but this taken by itself is no criterion, for at most times there is a considerable variety of tint, even in the same individual, and very dark brown or black is nearly always present from the end of the first winter until some years afterwards. The truth seems to be, that in old birds the dark tints merely predominate, and for this reason, that as a general rule the lighter ones are the first to disappear.* And yet this is not invariably the case, for specimens have been obtained which were perfectly white, with the exception of a few faint bars upon the wings or tail. Upon the body spots are usually darker than bars, and thus it is evident that the greater the abundance of bars upon the body, the younger is the bird. The size of the spots probably decreases with age, and is said to be larger in females than in males, but of this I have never yet been able to satisfy myself. The parts on which the marks show the greatest inclination to linger are the occiput, scapulars, wing coverts, tertials, and, more than all, upon the tail. Although an immature specimen may appear to have the ground colour, so to speak, of the plumage perfectly white, comparison with an adult will at once show that it differs in several respects. The plumage of the

* [Not a very clear passage. It seems better to transcribe *verbatim*.—Ed.]

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younger bird then looks greyish and dingy, and in some parts, particularly about the legs and feet, there is often a distinct rusty hue, and the feathers in the latter situation are comparatively short. Besides this, the whole of the plumage is of a peculiarly loose and fluffy character, a condition easily recognised, although difficult to describe. The oldest specimen in my possession is white, with the exception of a very few marks upon the wings and tail; the shafts of the quills are shining and yellowish, almost resembling ivory, and the plumage dense in texture, compact, and slightly glossy,—altogether very different from that of a younger bird. It is a male, and weighed nearly four pounds; probably it was very old, for the muscles were unusually strong, and some of the tendons could not be cut with a scalpel. In this specimen, as in all others which I have examined, most of the smaller feathers, especially those upon the back of the neck and upper part of the breast, are grey at the base."

If, as is supposed by some, the first feathers of the young are similar to those of the adult, I would ask, what are the dark birds? How does it happen that the whitest birds always present indisputable evidence of age? Specimens have come into my hands having a number of the feathers, especially of the breast and the back of the neck, *dusky brown barred with black*. These birds had both bill and claws differing from those of the adult in the manner described above; the whole plumage was much barred, and the tendons of the wings and legs could be easily cut. In the whiter birds the very reverse was the case. Possibly the name Snowy Owl, like that of Gyr Falcon, may yet be found to include more than one species.

The movements of the Snowy Owl upon the ground are the reverse of graceful, being as a rule confined to awkward bounding jumps, sometimes assisted by the wings. However, while watching it with my glass, I have seen it walk sedately from behind its sheltering rock, throwing the feet well forward, and spreading its large tufted toes, but this has only occurred once. I remember also that after it had returned to its shelter, a male

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wheatear alighted within a few feet, and was allowed to take its departure without molestation. I have been in pursuit of three Snowy Owls at one time, and although unsuccessful in my endeavour to procure one, the whole three were brought to me in one week—two of them in one day. This was in June 1868. One of the females contained ova the size of No. 1 shot. At whatever season it is taken, the quantity of fat, especially upon the abdomen, is very great; I have only seen one example in bad condition.

It is well known that many birds when irritated make a loud snapping noise with the bill. In the Snowy Owl this is effected in a peculiar manner, the extreme tip of the under mandible being placed against the point of the upper one, and, by means of strong contraction of the muscles, caused to slip smartly back into its place.

THE HAWK OWL.

Surnia ulula.

Having heard the Hawk Owl repeatedly mentioned in Shetland, especially as a regular winter visitor to Unst, it may readily be imagined how eagerly I awaited its arrival during my first winter's residence in that island. But waiting was in vain, and it was not until the following April that a friend informed me in a casual manner that he had seen one among the bushes, and that most probably it would remain there for some days. I lost no time in seeking for it, saw a Short-eared Owl, shot it, brought it home, and, to my unutterable disappointment, was congratulated upon having added a Hawk Owl to my collection.

In the winter of 1860–61 a specimen of this extremely rare bird was procured from Skaw, in Unst, by my friend Mr James Hay, to whom I am indebted for the only British example I have seen. The skin was shown to Mr Crotch, who reported the occurrence in the "Zoologist" for 1861, p. 7706. Hence the report of the capture of *his* specimens in Unst. I greatly

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regret my inability to add anything as to the habits of this species, or even of its appearance while living, but a rough description of this, one of the very few specimens procured in Britain, may not be out of place in these pages.

Measurements.—Whole length (of dried skin), 16½ inches. Wing from carpal joint to tip of longest quill, 9¼ inches. Bill, 1¼ inch. Tarsus, 1⅛ inch. Middle toe and its claw, 1⅞ inch.

Bill, white, tinged with brownish grey.

Eye (said to have been), yellow.

Head and neck.—Facial disk white, stained and slightly mottled with light dusky brown, becoming darker between the bill and the eye. Top of head and back of neck blackish brown, spotted with white, but much less on the back of the neck, where the brown lies more in patches. Outer edge of facial disk has each feather tipped with blackish brown; on each side of the neck, a long, broad, irregular line of the colour last mentioned; remainder of front of neck and its sides mottled with white and brownish black.

Upper surface.—Back, scapulars, and upper tail coverts, nearly black, spotted with white, the scapulars being darkest, and those nearest the wing having numerous bar-like white marks.

Wings.—Lesser coverts faded brownish black; greater coverts and all the quills, the same, but spotted with white; the spots upon the outer webs somewhat square in form.

Under surface white, barred with brownish black, the bars paler on the breast and near the tail; on each side of the breast, near the bend of the wing, a large dark patch.

Tail, brownish black, the middle feathers with several narrow white bars.

Tarsi and toes (which are feathered to the claws), dingy white, with numerous bars of pale dusky brown. Claws yellowish at base, dusky at tips.

The spots are most distinct upon the head, and the bars largest and darkest upon the sides.

I have failed in the endeavour to obtain any other authentic instance of the occurrence of the Hawk Owl in Shetland.

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TENGMALM'S OWL.

Noctua Tengmalmi.

Tengmalm's Owl being *a* little Owl, is therefore included in most Shetland catalogues as *the* little Owl. I found the remains of *Noctua Tengmalmi* lying in a fisherman's garden, and have several times observed solitary birds of the same species about Halligarth. I am perfectly well acquainted with both species in a living state.

In concluding my list of Owls, I may here remark that there is as yet no evidence to prove that either *Strix aluco, S. flammea, Noctua passerina,* or *Scops Aldrovandi* has ever occurred in the Shetland islands.

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H. L. S. del.ᵗ M&N.Hanhart lith.

BALTA SOUND FROM BALTA

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INSESSORES.

Dentirostres.

I. *LANIADÆ.*

THE GREAT GREY SHRIKE.

Lanius excubitor.

It is perhaps owing to the comparative scarcity of observers, that the Great Grey Shrike, so long known as an occasional though rare visitor to Orkney, was not recognised as occurring in Shetland until the winter of 1870, when I met with it by mere accident. On the 26th of December in that year, as I was standing on the beach at Balta Sound, loading my gun, a Grey Shrike came flying across the voe in a southerly direction, and, passing within ten yards of me, continued its course until lost to sight against the neighbouring hills. It flew heavily, as if wearied with a long journey, and kept very low, even when crossing the water. The wind was blowing moderately from N.E. at the time, and the ground was covered with snow.

The apparent want of a second bar upon the wing in certain specimens, and the consequent attempt to assign them to another species, has now led to a thorough investigation and explanation of the error by Messrs Dresser and Sharpe, in the "Birds of Europe." As long ago as 1854, I had the pleasure of sending to Mr Yarrell the wings of several Grey Shrikes procured in Belgium, at the same time pointing out that although the base of the secondaries was white, it was often entirely concealed in immature birds. This seems to have been completely overlooked by Macgillivray, who, considering

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the one-spotted and two-spotted individuals as of different species, took no little pains to point out the supposed mistake of other authors who made no such distinction.

THE RED-BACKED SHRIKE.

Lanius collurio.

Rarely indeed though a fact relating to the ornithology of his own country escaped the unwearied vigilance of Macgillivray, it has recently been shown that the Red-backed Shrike had already been captured north of the Border prior to 1840, when in the third volume of the "British Birds," p. 507, he mentioned it as unknown in Scotland. Four such examples are recorded in Mr Gray's "Birds of the West of Scotland," p. 67, and on perusing that author's account still further, one cannot but entertain a hope that, like the missel thrush, once so exceedingly scarce, this handsome species is gradually increasing in numbers, and will soon be well known throughout Scotland. To the above-named account I may add that in May 1870 I saw a male in the long hawthorn lane at Blair Drummond, in Perthshire, and in a local collection another specimen, also a male, which was shot near the same place many years previously. As regards its occurrence in Shetland, I shot a young male of this species at Halligarth on the 5th of October 1866, up to which time the Red-backed Shrike had not been included in any catalogue of Shetland birds, and, on the strength of Mr Macgillivray's statement, I assumed erroneously that this was the first recorded instance of its being seen north of the Tweed. Again, on the 9th of June 1870, while walking along the low cliffs above the sands at Burrafirth, I caught a glimpse of a bird flying up the grassy slope, uttering a short chirping noise, and carrying something in its bill. It disappeared behind a ruined wall, and immediately returning picked up some article of food near the edge of the cliff, and again flew back to the old wall. I then recognised the bird as

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a female Red-backed Shrike, and, following her up, beheld to my astonishment three young birds, tolerably strong upon the wing, yet clamouring loudly for food. The whole family was very shy, and it was only when I crouched behind a distant rock that the feeding process was resumed. I am quite at a loss to account satisfactorily for the presence of young birds in such a place. For some weeks previously there had not been an hour's rough weather, so they could not have been driven over; and it is almost impossible that they could have crossed the sea voluntarily, the Shetlands lying a hundred miles at least from the nearest land. There was nothing in the shape of a bush in the neighbourhood, and I can only imagine that, if the brood was really hatched there, the nest must have been placed among the long heather which fringes the low rugged cliffs. About a month afterwards, observing some dead bees fastened among the twigs of a willow hedge at Halligarth, I watched the spot, and soon discovered a young Shrike, in all probability one of the Burrafirth three, but the others I never saw again. It remained about the garden for nearly three weeks, and then disappeared during the night.

II. *MUSCICAPIDÆ.*

SPOTTED FLYCATCHER.

Muscicapa grisola.

The well-known habits of the Spotted Flycatcher, attaching itself as it does exclusively to wooded and well-cultivated districts, would scarcely warrant a search for it so far removed from both as are the Shetland Islands; yet it does occur, though very seldom. Thomas Edmondston considered it "not common,"* and Messrs Baikie and Heddle record but one individual as having occurred in Orkney. I have met with it but twice in Shetland—once in June, 1859, and again early in

* Zool., 1844, p. 460.

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September in the same year. Both these birds frequented the garden at Halligarth, and both were killed by cats, to which, no doubt, their familiar and confiding nature rendered them an easy prey. The first one, although feeding almost without intermission during the whole day, was occasionally to be seen catching small moths within an hour of midnight.

III. *MERULIDÆ.*

THE MISSEL THRUSH.

Turdus viscivorus.

The Fieldfare and the Redwing are sometimes confounded with this bird by those few Shetlanders who, having woodcuts to refer to, are misled by the spotted breast. Thomas Edmondston, in a MS. note to his "Fauna of Shetland," remarks that the two individuals, supposed to be Missel Thrushes, shot by himself out of a flock in the month of May, "were but Redwings, beyond all doubt;" and he further states that the Redwing, like several other species, was merely inserted upon the authority of older observers. The very few Missel Thrushes which do visit us appear in hard weather, doubtless for temporary shelter; but they are as shy here as elsewhere.

THE FIELDFARE.

Turdus pilaris.

The Fieldfare has never been known to breed in the Shetland Isles, but sometimes lingers even as late as the end of May. At the time of my first visit (1854), it might still be considered a rather rare species, though "known occasionally to rest on its way southwards in spring."* Gradually, however, it has since become quite common in autumn and spring, large

* Doubtless a misprint for *northwards* (Zool., 1844, p. 460).

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flocks, sometimes numbering upwards of a hundred birds, remaining in one neighbourhood for many days. From the fact of their choosing the vicinity of gardens and enclosures, it is not improbable that the attempts which have of late years been made to cultivate trees and shrubs are offering an increasing temptation to the wanderers to tarry on their way. They keep to the open fields during the daytime, and seldom allow a sufficiently near approach for a shot. On being disturbed, if not greatly alarmed, they make almost instantly for the trees—"trees" by courtesy, that is to say—waiting patiently for an opportunity of returning unmolested to the fields. Sometimes, however, during snow, they are only too glad to avail themselves continuously of the shelter of the trees and shrubs, scraping away with their bills large dark patches upon the white surface, in order to search for food among the decaying twigs and leaves. I never could detect them roosting on the ground, although arboreal accommodation even for a limited number was somewhat of the scantiest. Their habit at roosting time was to sit among the highest branches until a little after dusk, and then descend to the lower ones, where they remained all night under shelter of the six-foot wall. I think they invariably migrate by night. On the eve of their departure they are restless, not assembling formally to roost, but keeping about the fields after dark, although occasionally alighting in the garden. About eleven o'clock one dark but quiet night in the month of March, a large flock of Fieldfares, easily recognised by their notes, flew high over my head in the island of Yell. They were travelling northwards, but as none were to be seen next day in Unst, the favourite resort, it is probable they were steadily on their way home. The night was rather damp, with a slight breeze from S.S.W. It seems to be well known that birds when migrating usually fly lower in misty weather. During hard frosts Fieldfares resort to the shore to feed, at high and low water indifferently.

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THE SONG THRUSH.

Turdus musicus.

This bird appears in some of the old lists as a well-known visitor, but here again the speckled breast has been the cause of error. Gladly indeed should I have welcomed the old familiar notes during the nearly songless spring, but the confident assurances of my friends were never realised; and when the first and almost the only one I ever saw in Shetland met the usual death of all my garden favourites, I could scarcely regret the event, so little did the cowering, nearly starved victim resemble the bright and happy bird which must ever remain in my mind associated with sunshine and home. According to Messrs Baikie and Heddle, it is common and resident in Orkney, where it breeds regularly in various places, —a fact which is by no means extraordinary, when we remember that although the two groups of islands are so close together, far better shelter for arboreal species is afforded in Orkney than in Shetland, where even the very heather is stunted, and where generation after generation of mankind may pass away without seeing a shrub of as much as eighteen inches in height.

Some years ago, being informed, upon what I then considered good authority, that the Song Thrush was "repeatedly" shot in the neighbourhood of Lerwick, I begged for a specimen, and ere long received a sadly mutilated Fieldfare, the usual mistake having been fallen into.

The Song Thrush is not included in Captain Feilden's account of the birds of the Faroe Islands.

THE REDWING.

Turdus iliacus.

By merely substituting the name of the Redwing for that of the Fieldfare, my remarks upon the former scarcity and present abundance of the one would apply with equal truth to the

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other. The two often migrate in company, but the Redwing very seldom remains in autumn after the supply of rowan (mountain ash) berries is exhausted; although, if the weather be fine, and other food is to be procured in tolerable abundance, it occasionally lingers on for a week or more. It generally arrives in flocks of moderate size, but if the weather prove boisterous, merely in small scattered parties. I am not acquainted with any bird which so soon loses condition in hard weather, or so readily succumbs to its effects. Like the Fieldfare, it roosts in gardens, low down under shelter of the walls, where, indeed, aided by a lantern, I have taken them by hand as they sat upon the branches. I never knew it migrate by day. In spring and autumn, in the month of October especially, its shrill piping note may be heard high overhead on still nights. I have often thought that we are not unfrequently indebted to a contrary wind for unexpected visits from migratory birds, which would otherwise pass over without alighting. A marked instance of this occurred on the 29th of October 1866, when, after the gale from S.S.W. and heavy thunderstorm of the previous night, immense numbers of Redwings, Fieldfares, Blackbirds, and Mealy Redpoles were scattered all over Unst and the northern half of Yell. The wind soon afterwards shifted to N.W., but continued very boisterous until the 2nd of November, when it fell towards night. The morning of the 3rd was fine, with light N.W. wind, and with the exception of a few Redpoles, not one of the species above enumerated was to be seen. It is not difficult to imagine the simultaneous movements of a flock, but the perfect unison among birds of several species, scattered in all directions over an extent of some twenty miles, appears but little short of marvellous.

Low's suspicion that the Redwing occasionally remained to breed in Orkney has, according to Mr Gray,* been confirmed by Messrs Baikie and Heddle. Although it is seen in Shetland as late as the middle of May, I have no reason to believe that

* Birds of the West of Scotland, p. 77.

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it has ever nested there, the reports of it having done so in Bressay and in the neighbourhood of Lerwick being utterly groundless. Captain Feilden, however, informs us* that it breeds in Faroe.

[I shall, perhaps, be exercising a wise discretion in here departing for once from the strictness with which these pages are confined to observations made in Shetland, and venturing a remark on the assertion in the new edition of Yarrell's "British Birds," that the recorded cases of the Redwing's breeding in Great Britain are to be regarded with doubt. There cannot be the shadow of a question as to the absolute soundness of the case there merely alluded to as perhaps the best authenticated, namely, the detection of the nest by Dr Saxby in May 1855, in North Wales. It was under his daily observation from May 12th to June 5th, when at last it was cut out of the bay-tree in which it was built, the birds having forsaken it, all his vigilance in the hope of seeing young Redwings British born being frustrated. One of the eggs then taken is on the table as I write, together with the minutely detailed record in the pages of my brother's note-book for the year alluded to. I well remember the anxious care taken to guard the birds from intrusion, and the deep interest felt in the unprecedented occurrence by the old shepherd and the few others who were in the secret.—ED.]

THE BLACKBIRD.

Turdus merula.

Like the two preceding species, the Blackbird is now common in spring and autumn, and probably from the same cause. There is little doubt that it has bred in the southern districts, and that it would breed regularly in Unst, at Halligarth, had it a fair chance. I have known pairs remain in spring, and have even found the remains of the nests; but in a

* Zool., 1872, p. 3215.

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garden fifty yards square, haunted by seven spoiled cats, what bird can have a chance of hatching in peace? It is most plentiful in October and April, although a few males remain throughout the winter, in those few localities which suit their habits. In spring and autumn considerable numbers frequent the shore, seeming as happy and as lively among the scattered rocks as among the thickets and hedge-rows at home, and quite as jealous of intruders. Although apparently thus partial to the shore, it greatly dislikes the damp sea-breezes so prevalent in these islands. At such times I have, by way of experiment, chased the birds round the little garden for twenty minutes or more before they would rise above the wall. In severe weather they scrape away the snow under the bushes in their search for food; and when the ground is too thickly covered, they betake themselves to farm-yards and enclosures where ponies and cattle feed, humbly picking up such small chips of turnip as may happen to drop during the process of eating. In very hard weather I have known them seek shelter in pigeon-boxes, even in the daytime. In the month of October they arrive in small but distinct flocks, the number of males exceeding that of the females by about one-third. These flocks soon disperse, each bird providing independently for itself.

THE RING OUZEL.

Turdus torquatus.

Messrs Baikie and Heddle include this species in their catalogue of the birds of Orkney as "an occasional winter visitant," but the instances quoted all occurred in April and October, the two months in which it is usually observed in Shetland. Single individuals or small parties mostly occur in spring, but in autumn we are generally visited by females, each accompanied by two or more young birds. They seldom remain longer than a couple of days, unless the rowan-berries in the gardens happen to be plentiful. Examples killed in autumn are always

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extremely fat. Macgillivray* considers it strange that he has found seeds and portions of berries in the intestines, adding, "This is the only instance in which I have found seeds and large fragments of vegetable matter in the intestines of a bird." I have upon many occasions discovered these substances in the intestines of the Ring Ouzel, Song Thrush, and Blackbird.

I observed a Ring Ouzel upon the hills near the burn of Whatley in June 1863, and one at the same spot in October 1864. The locality appeared suitable for breeding, but there is no authentic record of the nest having been found in any part of Shetland. When this bird descends to low grounds, distant from any better cover, it keeps to the shelter of walls, avoiding its pursuers by flying swiftly along the foot of the wall, and then with a sudden jerk disappearing over the top, and continuing its low rapid flight upon the opposite side.

IV. *SYLVIADÆ.*

THE HEDGE ACCENTOR.

Accentor modularis.

Although it is not improbable that the Hedge-sparrow may occasionally have been observed among the gardens in the neighbourhood of Lerwick, some more reliable evidence is required than that of my informant, who, in stating that he had observed it there, also remarked that he had often found its nest in Orkney. Messrs Baikie and Heddle, however, whose work was published in 1848, say, "This bird occasionally visits Orkney in October. It was observed near Kirkwall during the winter of 1842, and again in the same season in 1844."

A bird so well known to me could scarcely have often escaped notice during my long residence in Shetland, yet I have met with it only upon one solitary occasion, October the 5th, 1868. when I saw one among some willows and wild roses

* Brit. Birds, vol. iii., p. 104.

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at Halligarth. Mr Gray mentions having seen the nest on Ailsa Craig,—a far more unlikely locality, one would suppose, than many which could be found in Orkney, or even in Shetland.

THE REDBREAST.

Erythaca rubecula.

Almost every Shetlander believes this bird to be common throughout the islands, but it appears that the name "Robin Redbreast" is invariably applied there to the common Wren, which is at all times abundant. The true Redbreast is very rarely seen, and it is not a little singular that a bird so hardy and so ready to adapt itself to circumstances should never remain to breed, although, according to Messrs Baikie and Heddle, it resides in Orkney throughout the year. An Unst man one winter brought me a Redbreast which he had killed in his corn-yard, and great was his disappointment on ascertaining the name of his prize, he, poor fellow, having been under the impression that it must be a bird of extraordinary value.

THE REDSTART.

Ruticilla phœnicurus.

Until within the last few years, the Redstart was quite unknown in Shetland. Now, however, probably for reasons given in my remarks upon the Fieldfare (see page 61), it is gradually becoming more numerous, like many other insessorial birds. Almost every autumn, chiefly in October, several examples of it appear at Balta Sound, and I once observed it in a garden at Belmont. These are always females or young birds. Possibly they may occur earlier in the season, but so shy are they in their habits that it is difficult even to catch a glimpse of them until the first night's frost has partly stripped the little trees of their leaves. In Orkney, also, the Redstart appears to be but an occasional visitor.

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THE WHEATEAR.

Saxicola œnanthe.

STEINKLE.*

A regular and extremely abundant summer visitor, arriving about the middle of April, and remaining until the middle or end of September, or even until early in October in very favourable seasons. The arrival of the male almost always precedes that of the female by a few days. It is first met with, though in very limited numbers, on various parts of the coast; then suddenly, even in the space of a few hours, both hills and valleys are covered with them as if by magic. Immediately after the arrival, the male begins to select its mate, and, at the same time, the well-known merry little song commences, only to cease when the brood is hatched. It is truly a sprightly and happy bird; and, though gifted with no brilliant or gaudy colours, is far more pleasing to the eye than many a dazzling rarity from tropical countries. Go where we will in spring, there, not far distant, is the Wheatear, every action and every note reminding us that the worst is past, and that the long looked for joyous days are at hand. In my own case at least, I have many times found occasion to feel grateful to it for diverting my thoughts into a pleasant channel; for in spite of one's self, it is difficult indeed to indulge in gloomy and desponding fancies while, with fluttering wings and grotesque actions, the happy bird is warbling his pleasing little song, "literally dancing in the air with delight," as Mr Gray happily expresses it.

Having recently made a careful search in the whole of my small collection of ornithological books, I am greatly perplexed to find that although frequent mention occurs of the song itself, no allusion whatever is made to the marvellous power possessed by the Wheatear of imitating the notes of other species. For example, one day in May 1866, upon a hill near

* Miscalled "Stonechat" at Bressay and Balta Sound.

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Snarravoe, a fine male Wheatear sitting upon a large stone, after entertaining me for a while with the cry of the ringed plover, suddenly went off into an exceedingly good attempt at that of the lapwing; but soon afterwards, having inadvertently destroyed the whole effect by a ludicrous mixture of the two, it stopped for a short time, and then began a monotonous "peewit, peewit," which was continued as long as I remained within hearing. Upon very many occasions I have heard the Wheatear successfully imitate the notes of the following birds, —house sparrow, skylark (part of song), common bunting, mountain linnet, peewit, golden plover, ringed plover, redshank, oyster-catcher, and herring gull. So complete is the deception, that when the bird has been out of sight I have many times been thoroughly taken in. One April morning, hearing, as I thought, the cry of a redshank, I was preparing to follow up, when to my surprise I discovered that the notes proceeded from a Wheatear, the first of the season, perched upon a stone not many yards distant.

Incubation having fairly begun, the male, who, by the way, has taken an active part in the process of building, keeps his fidgety watch in the neighbourhood, sometimes employing himself in carrying food to his mate, and occasionally taking his turn upon the eggs. I have seen him, when driven from the nest, flit away for a short distance, alight upon a stone, and rising in the air indulge in song without the smallest sign of alarm. This song is often to be heard even as late as midnight, when the weather is fair. However, no sooner are the young hatched than the behaviour of the male undergoes a considerable change. The song is laid aside as unbecoming to the dignity of *paterfamilias*, who, jealous of every intruder, flits about restlessly in every direction, endeavouring by numerous devices to divert attention from the concealed treasure; although, by his newly assumed and incessantly repeated "*peep, chack, chack,*" he most unmistakably betrays the secret. The young of the first brood are left to themselves as soon as they are well fledged, the parents immediately begin-

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ning a new nest, or, if they have not been much disturbed, merely repairing the old one. Occasionally the same nest will be occupied for two successive seasons. The situation varies greatly. I have sometimes found it in rabbit burrows and peat-stacks, more rarely beside a stone in a hollow of the ground, closely overhung with a bunch of heather. It is most usually placed in the hole of a wall or quarry, somewhat near the ground, among heaps of large stones, or under shelter of a sod in a ploughed field. Wheatears sometimes build in holes of walls upon the remains of old nests of the house-sparrow. About the middle of June I found one in such a situation; it was composed of the usual materials, and could easily be lifted entirely away from the flattened remains of the old nest. Sometimes the order of things is reversed, and if the crevice be sufficiently large a house-sparrow will construct its own comparatively clumsy habitation upon the neat little nest of a Wheatear. Not unfrequently the nest is situated in a hole in the face of a low peat cutting, not very far back, and I have found it in a crevice upon the sun-dried surface of the peat moss itself. When approaching a nest in the former situation, I have seen the bird fly out hurriedly while I was yet many yards distant, and, being on the level ground above, of course out of sight. In these cases it is probable that the vibration of the peat under my footsteps was the cause of alarm.

The nests vary considerably, not only in appearance, but in the nature of the materials of which they are composed. Every one that I have seen has contained feathers. A nest found in a garden wall was constructed in the following manner: first there was a large mass of fibrous roots, moss, dead weeds, and hay, loosely spread upon the bottom of the crevice by way of a foundation; upon this was a cup-shaped layer of smaller fibrous roots, and again one of fine roots intermixed with cow's hair, upon which was another layer of similar materials, with the addition of about a third part of hay. Above this there was a distinct carefully wrought lining, in three layers, the first consisting of pieces of twine and carpet-

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worsted, the second of a thick mass of cow's hair, and the third of a great quantity of small feathers.

The nesting habits of the Wheatear are so full of varied interest as to afford unceasing pleasure to the observer. One of the most curious departures from ordinary rule came under my notice early in June 1863. At the edge of a deep burn upon the hill-side, a long strip of turf had given way, and, resting against the steep bank, had thus formed a small kind of tunnel, about a yard in length. So tempting a situation for a nest had attracted the notice of two pairs of Wheatears, which, instead of settling the question of ownership sparrow-fashion, peaceably built their nests side by side within six inches of each other. Each nest contained six eggs, all of which were hatched within the same week, and in due time both broods were fledged. Although one brood left the nest somewhat earlier than the other, it remained in the immediate neighbourhood long afterwards, accompanied by the parents, which fed them industriously for at least twenty hours out of the twenty-four. The younger brood soon rejoined their former neighbours, and at about eleven o'clock every night the whole party, numbering sixteen, retired to crevices beneath the large stones;—at least I suppose so, for although I was never able to discover the young birds in their retreat, the slightest noise was sufficient to call forth the old ones. But after this had occurred three or four times, they were never to be taken by surprise, and were always to be seen flitting restlessly about as soon as I approached sufficiently near to distinguish them. Both ends of the tunnel were used for the purposes of entrance and exit, but I had no means of ascertaining whether each pair of birds kept to its own nest.

On another occasion in the same year, I found a Wheatear's nest with six young ones at the bottom of a heap of large stones, and so far in that I had to throw out the stones until a hole was made some two feet deep and a yard wide. It then proved that, as in many other cases I had seen, the old birds had preferred to enter at a distance of several feet from the nest,

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though they might have taken a much shorter cut, and had crept all that distance among the stones every time they brought food. The former passage having been destroyed by my clearing the gap, they thenceforth used my new passage. I accidentally left a feather lying near the nest, but it was immediately carried away to a distance of about twenty yards. I repeated the experiment four times, and each time with a precisely similar result. On the occasion of my first visit, the eyes of the young birds were just beginning to open, and food was carried by both parents as late as eleven o'clock at night.

I have seen the eggs of a pure white, resembling those of the black redstart, but larger, and in one season I was led to remark in the "Zoologist" on an apparent exceptional prevalence of the spotted variety, more than one-fourth of the whole number of eggs shown to me that year being of that kind. It afterwards turned out that these had been especially selected by the birds' nesting boys, who were aware of my wish to obtain unusual varieties of eggs.

Macgillivray considers it unusual for Wheatears to perch in trees or shrubs. This was, however, a constant habit with the species at Balta Sound, where I often used to see them in the little sycamores. I at first thought that the habit was more common with the young birds, but now believe that the greater abundance of the latter led me into error. Both old and young seem to prefer the topmost twigs.

THE BLACKCAP WARBLER.

Curruca atricapilla.

This species has not hitherto been recorded as a visitor to any part of Shetland lying south of Unst; doubtless it has been merely overlooked, many localities, Gairdie and Busta, for instance, being better suited to its habits. It is only during the last few years that I have observed it. Now, however, a few —males, females, and young—appear regularly in the gardens

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at Buness and Halligarth during the months of September and October. A pair once attempted to build in a currant bush at Halligarth, about the beginning of June, but one of the birds was of course killed by an odious cat.

The only native songsters, if they may all be reckoned as such, being the Wheatear, the Meadow Pipit, the Rock Pipit, the Skylark, the Mountain Linnet, and the Wren, it is scarcely to be wondered at that when some privileged Shetlander has the good fortune to hear the sweet notes of a stray Blackcap or Garden Warbler trilled forth on a clear summer's night, he is only too ready to conclude that he has heard the nightingale, and for any person intimately acquainted with that bird to attempt even a suggestion to the contrary is simply throwing away words. However, Shetland is far from being the only place in which every sweet singer among birds is thus miscalled.

The Blackcap sometimes remains until November, but I have not observed it later than the 10th. One suddenly appeared in the garden at Halligarth on the 22nd of October 1861, during a strong east wind. It was shot, and proved to be a male in good plumage, and in the stomach I found a few currants and some large flies. I was at a loss to know how the currants had been procured so late in the year, but, after a careful search, I discovered several of a similar kind hanging withered upon a half-hidden bush. The berries of the mountain ash are also a favourite food of the Blackcap. The capture of one example only in Orkney is recorded by Messrs Baikie and Heddle, but I hear from good authority that it has been more frequently met with of late.

THE GARDEN WARBLER.

Sylvia hortensis.

A rare autumn visitor, usually occurring in September. It is very shy, keeping well concealed among the leaves, and seldom exposing itself to view, except when suddenly darting

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out to capture a passing fly. By exercising great caution, I have sometimes approached within a few feet of the bird, and watched it picking the green aphides from the sycamore leaves. As far as I am aware, it has not yet been observed in Orkney.

THE WHITETHROAT.

Sylvia cinerea.

This bird can only be regarded as a straggler, appearing in warm summers, but seldom remaining many days. It is never long silent, either by day or by night. In the gardens it feeds upon various insects, readily taking flies upon the wing; it is also very fond of currants, the red ones being preferred. It seldom appears beyond the shelter of the bushes, and several times during its brief sojourn with us I have been able to identify it only by hearing its well-known voice. Neither this nor the following species occurs in Messrs Baikie and Heddle's Orkney list.

THE LESSER WHITETHROAT.

Sylvia curucca.

As might be expected, this species, not being common in any part of Scotland, is very rarely met with in the Shetland Isles. On the 22nd of September 1861, during a strong north-east wind, I saw one on the shore at Hammer, in Unst. There being no trees or bushes near, it kept to the sunny side of the wall, and, scarcely noticing my presence, busied itself in searching for food. Once it suddenly darted up to the window of a boat-builder's shed, and seized a large blue-bottle fly. On the following morning I saw another specimen, or possibly the same bird, at Halligarth, about a mile distant from Hammer. Scarcely so shy as *S. cinerea*, the Lesser Whitethroat was equally fond of concealment; although it was often to be

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seen at the foot of a wall, searching for insects among the rank weeds.

I have observed it twice since, but can only hear of these instances of its occurrence. All the three birds seemed to like the currants, although the few remaining upon the bushes were very dry and shrivelled.

THE WILLOW WARBLER.

Sylvia Trochilus.

The Willow Warbler, formerly extremely scarce, now visits us annually in summer and autumn, and occasionally, though less frequently, in spring, when its cheering little song is exceedingly welcome, sounding even sweeter than in its native groves, where so many of the more gifted performers are engaged in the vocal contest. Perhaps, too, the reminiscences which it calls forth of the dear old English woods lend no small additional charm to the once familiar notes. No sooner does a Willow Warbler settle itself down for a sojourn in Shetland than it conforms cheerfully to the habits of the country, adapting itself without any difficulty to the circumstances attending a complete change of climate and locality, searching industriously for the aphides and the small green caterpillars which abound among the shrubs, and apparently leading a very contented life, until the frost compels it to leave; or, as is more frequently the case, until the cats save it the trouble of undertaking a fatiguing journey. I have seen it as early as the 28th of March, and as late as the 29th of October, on which day there was snow upon the ground. It occurs chiefly in Unst, and also at Gairdie and Belmont.

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THE CHIFF-CHAFF.

Sylvia rufa.

A rare species here, as well as in Orkney, appearing at about the same seasons as the Willow Warbler, and displaying very similar habits. It also seems as reluctant to leave. I have observed it as late as the 21st of November, long after the trees were bare, feeding low down among the bushes. I have good reason to believe that it has been seen in other parts of Shetland besides Unst, where alone it has hitherto been recognised; although the few inhabitants who interest themselves in such matters make a different statement, at the same time being unable to name the two species when lying on the table before them. Indeed, the latter is not a very uncommon occurrence even in the case of some excellent practical ornithologists. Upon this very question, Mr Harting observes:—"The Wood Wren, Willow Wren, and Chiff-Chaff all closely resemble each other, and by one not used to notice the distinctive characters of birds may be easily confounded. The Chiff-Chaff, however, may be known by its smaller size and darker colour, and the colour of its legs, which are dark brown. The legs of the Willow Wren are pale flesh colour, while the Wood Wren is a brighter green above, and a purer white beneath, the yellow line over the eye more distinct, the tail shorter, and the wings longer in proportion. In addition, the song of each differs sufficiently to afford, when at a distance, a good means of distinction."* In the month of October, I have dazzled the Chiff-Chaff with a lantern, and taken it from a branch with my hand.

* Birds of Middlesex, p. 53.

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THE GOLDEN-CRESTED REGULUS.

Regulus cristatus.

Visiting the Shetland Isles in autumn and spring, and instantly adapting itself to its new mode of life, the beautiful and hardy little Goldcrest, in no haste to depart, seems determined to take up its abode there, often remaining so long that the inhabitants are convinced that it is resident throughout the year. Thomas Edmondston, relying upon such information, was inclined to the same opinion, which, however, with his usual candour, he renounced very shortly after its publication, though many ornithological works still perpetuate the error. Residents in Shetland many years ago, when books and engravings were as a rule both scarce and bad, became sadly mystified by the terms Regulus, Kinglet, Golden-crested Wren, and *the* Wren, which is still so well known by tradition as the "king of all birds." The terms Regulus and Wren then became synonymous, and continue so until this day.

Although decidedly scarce some thirty or forty years ago, this bird is now almost abundant at certain times, a fact which can scarcely be accounted for by the increase of cultivation, for though partial to trees and shrubs, it is to be met with in almost every imaginable situation, even upon stony hills miles away from any substantial shelter. Here, however, some light is thrown upon the matter by Mr Gray, who remarks upon the enormous increase of the species throughout Scotland generally since the larch began to be so extensively planted. The Goldcrests almost invariably arrive in small flocks, the birds keeping together if they happen to alight first in the neighbourhood of a garden or corn-yard, but very soon becoming scattered and solitary elsewhere. Walls both of stones and turf are much resorted to, for there both food and shelter for their tiny bodies may be found in almost every crevice. Sometimes, when a wall is being pulled down, one may be found either half starved or frozen to death, from which circumstance has arisen the mistaken belief that many of these birds regularly hybernate.

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Messrs Baikie and Heddle note that they arrive in Orkney during easterly gales. With us also they come principally with gales from east and south-east. It is interesting to find both this and *Regulus ignicapillus* in Captain Feilden's catalogue of the birds of Faroe.

The almost complete indifference to danger displayed by the Goldcrest is well known. Having with very little difficulty caught one inside a window, I shut it into the room, and going into the garden procured a large number of aphides; these I placed upon various parts of the window frame, and very soon had the satisfaction of seeing the familiar little fellow begin picking them up industriously. I then restored him to his companions. One day in October, as I was sailing northwards towards Unst, the wind being nearly due south, five Goldcrests flitted up and alighted upon the fore part of the gunwale. They appeared to be quite active and vigorous, and, on our passing a small grassy holm, they flew towards it, and we saw them no more. One of the men told me that a bird of precisely similar appearance was found by himself lying dead upon one of the thwarts of an overturned boat upon the Uyea Sound beach, one frosty day, almost exactly a year previously.

V. *PARIDÆ.*

THE GREAT TIT.

Parus major.

This bird has been seen by me in Unst, where, however, it is extremely rare. One which visited that island in April first attracted my attention by its peculiar saw-sharpening spring note, so well known elsewhere. It very soon took its departure, probably being dissatisfied with its quarters. On another occasion a fine male was brought in by a cat; it had the stomach completely filled with common house-flies.

A lad from Yell, to whom I showed a coloured drawing of the

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Great Tit, instantly recognised it, and said that one which he caught in a barn about harvest time, on being put into a cage, soon became very tame, eating almost anything he offered. It was kept in close confinement for about a fortnight, and one morning it managed to escape; but in the evening, confidently entering a neighbour's cottage, it was shut in and hunted to death by the children. It is singular that during so short a time such perfect familiarity had been acquired; but it is quite probable that the voices of children, of whom there were several in its late home, had led it to venture within the doorway.

THE BLUE TIT.

Parus cæruleus.

But one example of this, the only Tit observed in Orkney, is recorded by Messrs Baikie and Heddle. It is very scarce in Shetland, and occurs at uncertain intervals, and, so far as I can hear, Unst is the only island of the group in which it has been observed. The first example I saw was kindly given to me by Mr Edmondston of Buness, who shot it in his garden in April 1860.

It is said, but upon very doubtful authority, to have bred in the island of Bressay.

THE LONG-TAILED TIT.

Parus caudatus.

About the middle of April 1860, I saw four, probably members of the same family, in the garden at Halligarth; but I have never seen any other in Shetland. As no Tits of any kind are mentioned in Captain Feilden's Faroe list, and but one example of one species has occurred in Orkney, the occurrence of three species in Unst alone appears somewhat unaccountable. I can only in part solve the difficulty by calling

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to mind the fact that the gardens of Buness and Halligarth are the only two in Shetland which have been carefully watched, and that, being many miles removed from anything of a similar nature, they act as perfect decoys for every passing arboreal bird. For eighteen years past they have been under scrutiny, and for the last fifteen almost incessantly, either by my brother-in-law, by Robert Mouat, or by myself, all of us being equally ready for ornithological novelties. None of the Tits are included in Thomas Edmondston's list.

In some parts of Unst, and I believe elsewhere also in the islands, it is asserted that most of the Tits are frequently to be met with. Sad experience has taught me that the convenient name of "titmouse of some kind" is bestowed upon any small bird, whose movements among the branches are so quick that the species cannot at the moment be ascertained.

VI. *AMPELIDÆ.*

THE BOHEMIAN WAXWING.

Bombycilla garrula.

The Waxwing does not occur in the Orkney list, but it has for a great number of years past been known to visit Shetland, though in small parties, and at intervals of considerable length. It must, doubtless, have been seen many times during the present century, but I regret to say that my own notes contain the only authentic instances. I first met with it on the morning of September the 16th, 1861, as it was feeding on rowan-berries in the garden at Halligarth, the wind being north-east at the time. Two days afterwards, the wind having changed to south and south-east, I again saw one in a rowan-tree, and soon afterwards five others flew overhead. These were joined by the solitary one; and, notwithstanding the temptation offered by the bright scarlet berries, all six went their way in a vigorous southward flight. The only specimen

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which fell into my hands was shot by Mr Thomas Edmondston, jun., at Halligarth, on the 29th of October 1866, a year which will long be remembered by British ornithologists for the enormous numbers of these handsome birds which appeared at its close. The bird in question was a female, and although observed at the rowan-berries on the previous afternoon, it was too shy to afford an opportunity for near approach. For two days previously the weather had been very rough, with repeated thunder-storms from the south-west. I have observed nothing with regard to the habits of the Waxwing which is not already thoroughly well known and described.

VII. *MOTACILLIDÆ.*

THE PIED WAGTAIL.

Motacilla Yarrellii.

Soon after expressing his belief that the Pied Wagtail bred in Shetland,* Thomas Edmondston found good reason to alter it, although still leaving uncorrected the statement that the bird left in autumn. I once saw one, apparently a straggler, near Scalloway, in the month of June, but could find no nest, although the locality appeared very suitable for it. It appears in small flocks or parties during the month of September, usually with stormy weather from a southerly quarter; but it seldom remains long, and is scarcely ever seen in winter. This bird appears in Dr L. Edmondston's list under the name of "White Wagtail;" perhaps correctly, if Mr Gray's suspicion that the Pied Wagtail "is but a local race" of the White should be ultimately confirmed. Certainly my own experience, derived from the examination of a very large number of specimens in various states, strongly tends to support this view. Mr Harting,† quoting Mr William Borrer, gives the main points of distinction between the two species, or varieties,

* Zoologist, 1844, p. 461. † Birds of Middlesex, p. 63.

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as follows:—"In the White Wagtail, the head is covered with a distinct hood of pure black, perfectly defined, and not mixing either with the grey of the back, or with the white of the forehead; the white on the cheeks and sides of the neck completely separates the black of the head from that of the throat and breast, there being no black before the shoulders; the sides also are much lighter, and the tail is somewhat longer. In the female, there is no mixture of black on the back and nape, which there is in all the females of the Pied Wagtail that I have examined." Although the usual time of the Pied Wagtail's arrival is in autumn, I have occasionally seen it in spring. A large number were scattered over all parts of Yell and Unst about the end of March 1867, after a series of heavy gales from the south-west.

THE WHITE WAGTAIL.

Motacilla alba.

On the 11th of June 1854, I saw a pair of White Wagtails in a road about a mile north of Lerwick. The similarity in plumage between this and the Pied Wagtail probably caused me to overlook the species for many years subsequently, for it was not until May 1867 that I again noticed it, this time in the island of Unst. A small flock seemed to have arrived with the strong east and north-east winds which then prevailed. They remained for about a week, but before their departure I managed to procure some good specimens. Possibly these unusual visitors were stragglers from Faroe, where Captain Feilden informs us it arrives in May.

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THE GREY WAGTAIL.

Motacilla boarula.

Of this species Thomas Edmondston merely remarks, "A few pairs breed," though from whence his information was derived it would be a difficult matter to imagine. It usually arrives in August and September, in very small numbers, and in various parts of the islands, but I have observed it both earlier and later. During its short stay, it seldom strays far from the beach, feeding chiefly upon small marine univalves and flies. It is perhaps in order to obtain the latter that the bird frequents lee places upon the shore, fully exposed to the warmth of the sun. In pursuit of these flies it displays great activity, running swiftly, and catching them as they skim above the ground; sometimes, though very seldom, rising upon wing to take one which would otherwise be out of reach. It usually appears after a stiff breeze from the south or south-west; but whether this drives it from the south, or detains it upon its way from the north, yet remains to be determined. The latter can scarcely be the case, for Yarrell observes that "this species has no very high northern range, never appearing in Denmark, Norway, or Sweden," nor is it included in Professor Newton's "Catalogue of the Birds of Iceland." Neither this species nor *M. Yarrellii* appears in Captain Feilden's account of the Birds of Faroe.

THE GREY-HEADED WAGTAIL.

Motacilla flava.

This has been seen by me several times late in autumn, but it appears merely as a straggler. I observed one near the Sandy Loch, not far from Lerwick, about the middle of October 1870; the others were seen in Unst, upon every occasion near a fresh-water loch. Although well acquainted with the bird, I thought it advisable to shoot one, in order to avoid all chance of future controversy.

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RAY'S WAGTAIL.

Motacilla Rayi.

This species, though a rare straggler, also occurs in Unst, thus enabling us to include the whole of the British Motacillidæ in the Shetland catalogue. So far as can be ascertained at present, it appears late in summer and early in autumn. Here, as in England, I have several times seen it feeding among cattle, in company with the Pied Wagtail.

VIII. *ANTHIDÆ.*

THE MEADOW PIPIT.

Anthus pratensis.

TEETICK—HILL-SPARROW.

In all parts of Shetland, the Meadow Pipit is now a common species, although many of the most trustworthy and observant of the inhabitants believe that it has only been so plentiful of late years, or, as they say, "since the rye-grass was brought into the country." It may be thought that the connection of the two circumstances is somewhat remote, but the theory does not appear to be entirely groundless. My note-books contain abundant references to the sudden appearance of Meadow Pipits in the rye-grass fields as soon as the hay is cleared, usually in August. Most authors assert that the Meadow Pipit sometimes swallows seeds. In Shetland, at any rate, it often does so; for on opening the stomach, I have repeatedly found at least one-third of the contents to consist of such food, the remainder being small insects and fine gravel. The seeds of rye-grass were not in a large proportion by any means, but it occurs to me as possible that grass of that species may be especially favourable to the production of some other food, even of an insect kind, more than usually attractive to the bird. However, ideas such as this, being apt to lead to rash

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conclusions, should be regarded with great caution. For instance, on one occasion I saw in my garden a number of common mountain linnets feeding eagerly upon the seeds of *Anagallis arvensis*,—a plant until then unknown in Shetland, but which had become accidentally introduced in a parcel of flower-seeds from England. Now, had the mountain linnet been a rare bird then observed in the islands for the first time, the assertion that it had been attracted by its favourite food would doubtless have passed unchallenged.

The Meadow Pipit, though resident, seems, like the skylark, to make a partial migration in autumn, very few being seen in winter. In the spring it returns to breed upon the hills, not often in cultivated places, descending to the low grounds after the second brood is fledged. Like most birds resident in Shetland, it breeds late, the eggs seldom being found sooner than the middle of May. The young of the second brood remain with the parents at least until the end of September. As the warm weather—there is little enough of it—goes away, the turnip fields furnish both food and concealment; and when a garden chances to be near it also offers considerable attractions, the birds often being seen traversing the branches of the trees and shrubs in quest of the numerous insects which resort to them for shelter.

THE ROCK PIPIT.

Anthus obscurus.

TANG SPARROW—TEETICK.

The Rock Pipit, better known to the natives by the name of "tang sparrow," from its habit of frequenting the sea-weed, or "tang" as it is locally termed, is very abundant throughout the islands, frequenting the shores upon every coast, and only venturing inland for the sake of shelter in unusually boisterous weather. At such times I have observed it wading in ditches, feeding under shelter of walls and outhouses, sometimes in cold

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weather venturing upon the window sills, and occasionally rising on wing to pick from the crevices some half-torpid insect. In hard winter weather it invariably comes to the doors, feeding unmolested with the poultry. In autumn I used to observe it regularly at Buness and Halligarth, apparently quite at home among the trees, searching industriously for such insects as had resorted thither for shelter, and especially for a small land-shell which was common among the decaying leaves and twigs.

The Rock Pipit is not gregarious in its habits, though many observers have believed it to be so, misled by the sudden appearance of large numbers upon the beach when, after a heavy gale, a great quantity of weed has been drifted ashore. In warm weather the drifted weed very soon begins to swarm with small black flies, and upon these the numerous families of Rock Pipits feast incessantly, rapidly becoming very fat.

The short and pleasing song, accompanied by the same singular actions so well known in the tree pipit—the only difference being the substitution of a rock for a branch—begins about the 12th of March, perhaps never earlier, continuing until the hatching of the first brood. I have observed that, as with the skylark, the first song is invariably heard on a fine sunny day.

It pairs about the middle or end of March, but eggs are very rarely found earlier than the end of April. The nest is composed entirely of dry grass, finer towards the inside; more than once I have found a small quantity of dry sea-weed intermixed, but only upon two occasions have I observed horse-hair in the lining, and in each instance a stable was very near at hand. It is usually situated under large stones, either upon the turfy summit of a cliff or upon the beach; less frequently it is found in holes of banks, in rabbit burrows, in loose stone walls, and in crevices of rocks, often half-way down a high sea-cliff. The latter situation is not so dangerous for the collector as when the nest is near the summit; since in the one case he is prepared for a regular climb, while, in the other, the attempt to

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reach over the brink is often hazardous in the extreme. Scarcely less dangerous is it when the spot chosen is among the grassy ledges of a low cliff of merely some fifteen or twenty feet in height, so insignificant in appearance as to render the climber forgetful that at the foot of such a cliff the water may be far deeper than is sufficient to drown him, or the rocks quite sufficiently hard to break every bone in his body. Occasionally I have found the nest several hundred feet above the sea-level, at the base of a large stone, well concealed among grass and heather; but I cannot call to mind one single instance in which the nest has been so placed that the sitting bird could not obtain a view of the open sea. In colour the eggs often resemble those of both the meadow pipit and the skylark; but their superior size at once distinguishes them from the former, while from the latter they may be known by their rounder form, and, as a rule, by the absence of the greenish tinge so common in the eggs of the skylark,—two points of difference already mentioned by Mr Hewitson, but here repeated as confirmed by the examination of many hundreds of specimens.

IX. *ALAUDIDÆ.*

THE SKYLARK.

Alauda arvensis.

LAVEROCK—LADY HEN (*Our Lady's Hen*).

In Scott's "Pirate," Magnus Troil, that admirably-drawn representative of the fine old Shetland Udaller, is made to tell of the laverock which he had once heard in Caithness, thereby implying that it was unknown among his native isles; but the error may well be passed over in silence when we take into consideration the many astonishing ornithological mistakes committed by the inhabitants themselves. It is true that in winter the Skylark becomes scarce, sometimes indeed almost entirely absent for many weeks; but during the summer it is

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one of the commonest of the land birds. Whatever may have been the character of the previous winter, large numbers return early in March, usually in straggling flocks, but sometimes in compact companies of several hundred individuals, as witnessed by myself in March 1871. The time of departure varies according to the mildness or severity of the weather, but I have not observed it gathering in flocks previously to the departure, the disappearance being very gradual.

Throughout the whole of Shetland, the Skylark is held almost as sacred as the red-breast is with us; therefore it is but seldom that either the birds or their eggs are disturbed. In some parts of the north isles, when the reason of this forbearance is sought, the usual reply is, "Weel, if ye look under a laverock's tongue, ye'll see three spots, and they say that every one is a curse upo' him that interferes wi' it."

Before the song commences, the birds may be observed crouching under walls or large stones, attempting a few gentle but not very musical notes. I have heard the song as early as the 22nd of February, but very often it is interrupted for weeks at a time by a run of bad weather; however, when the warm weather has once fairly set in, the song is heard almost incessantly in every part of the whole group of islands. On looking over my notes, I find that in summer I have heard it in full song every hour in the twenty-four. As summer declines, the song ceases; but even in September it may sometimes be heard; the note is then weak, tremulous, and undecided, so that I have often imagined it to be merely the first attempt of a young bird. Possibly this autumnal modification of the song may have given rise to the erroneous supposition that the woodlark sometimes visits Shetland. A well-known lover of birds has repeatedly asserted such a belief, but it has been grounded solely upon the fact that in autumn he often heard the song of a lark of some kind, which he failed to recognise, and which he therefore assumed must be that of the woodlark. On a bright sunny morning, succeeding a heavy fall of snow, the Skylark may frequently be heard singing

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cheerily high overhead, as though looking upward only, and forgetful of the scene of desolation beneath.

It pairs early in March, but I have not succeeded in finding the eggs before May, after which time they may be seen constantly until even so late as the end of July. Here, as elsewhere, two broods are reared in the season; indeed, the pair will return to the same nest for two years in succession. The earliest nests are found in the lower grounds, so placed by the side of a large rock, or near the angle of a wall, as to receive the full benefit of the sunshine, and yet be well screened from the bitter east and north-east winds which commonly prevail in spring. The nest is always placed in a cavity upon the ground, often among heather upon the very highest hill-tops, and sometimes even in corn-yards, or among heaps of small stones which have been collected in the meadows. When the lining of the nest is commenced, the birds often entirely fill the cavity with the materials before beginning to adjust them permanently, a process which occupies about an hour; however, as the completion of the nest approaches, each fine blade of grass is carefully woven into its place before the next is sought for. I have not observed any very remarkable difference in the colouring of the eggs, although varieties in shape are of constant occurrence. I have seen some of the shape and size of a pea, some very much lengthened and pointed, others much flattened at the large end, and others again equally rounded at both ends. Incubation lasts thirteen days, as nearly as I can ascertain. The female is shy at first, but I have always, when I wished it, been allowed to stroke her with my hand as she sat upon the eggs, though only after very cautious and gradual advances.

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X. *EMBERIZIDÆ.*

THE SNOW BUNTING.

SNAA FOOL (*Snow fowl.*)

As might be expected, the Snow Bunting arrives here earlier than on the mainland of Scotland, the first flocks usually appearing about the end of September, although I have a note of their arrival as early as the 12th of that month. They usually come with a north or north-easterly wind, but I have twice seen them arrive with a gale from the south-west, which, however, there was reason to believe, had arisen during their passage. As will afterwards be shown, a few invariably remain throughout the summer, but the enormous flocks which visit the islands in autumn remain until winter sets in, or until the late autumn frost or snow cuts off the supply of food, whereupon the greater bulk gradually moves southwards, leaving only a few small flocks to stay through mid-winter. At the end of March, or early in April, large numbers return, not in compact flocks, but in straggling multitudes, scattering themselves throughout the length and breadth of the islands, gradually adding recruits to their numbers as they proceed northwards, yet always leaving many behind, to find their way home as best they can. Specimens are always to be obtained as late as the end of May, by which time adults are in summer plumage, although the young are still undergoing the change. I have not been able to verify the popular idea, that an unusually large arrival indicates a severe winter. It merely seems to indicate a deficiency of food in the north, for I have always observed that upon these occasions the birds are in comparatively poor condition. Immediately after their arrival they are rather shy, frequenting the hills and open places; shortly afterwards, however, on descending to the fields, they become much less wild. As a rule, they remain upon the hills until the corn has been cleared, but a frost immediately compels them to descend to the low grounds.

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In rough or wet weather they are not often seen upon the wing; but, unlike many other birds, they do not usually seek enclosed feeding grounds for the sake of shelter from the wind. During the heaviest gales I have watched them closely, and have then seen that the stubble afforded them quite as much protection as they cared for. At such times they are unwilling to rise, and often permit a very near approach; but when in the spring a severe storm drives them from the open grounds, they gather in very large flocks and assemble in the fields, the walls of which afford them protection and the means of feeding in peace. In March 1871 I met with the largest assemblage of Snow Buntings I have ever seen, all under shelter of a four-foot wall, and certainly covering some acres of ground. A very heavy sleety gale was blowing from the north-east, and, wishing to obtain even a partial shelter, I too kept to the lee side, walking through the midst of the broad line of birds. So unwilling were they to rise, that I could have reached many of them with my stick; and as I advanced the sight became perfectly confusing, the birds fluttering up as I approached, and immediately settling in front, behind, and upon either side, never venturing to rise as high as the top of the wall. It seemed as though I were literally wading through them, the continual shimmering of white producing an effect altogether indescribable. In fine weather they are more disposed for flight, and then it is that their well-known notes may be heard far overhead, almost uninterruptedly from sunrise until after sunset. I have only upon one occasion heard them late at night, and that was at about eleven o'clock one clear starlight night in autumn. Even in open weather, one or two may occasionally be seen upon a stack of oats; but it is only during heavy snow or severe frost that they visit the farm-yard in any great numbers. When engaged among the stubble they are not easily perceived, often affording the first indication of their presence by rising suddenly within a few paces of the intruder. When thus disturbed, a few nearly always remain upon the ground; but the main body, rising in a compact mass, fly off

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to some quiet spot, if they have frequently been molested. If otherwise, they are nearly sure to return to the same field after the cause of alarm has disappeared. They seldom alight with the first intention. The flock descends with a gradual sweep, suddenly contracts its dimensions as the ground is approached, wheels rapidly when within a few feet of the surface, and, rising again, flies off to a considerable distance before venturing to return; and these manœuvres may be repeated a score of times before it will settle upon the chosen spot. When the birds have finally resolved to alight, the flock wheels repeatedly and rapidly, then dropping rather suddenly.

Snow Buntings upon the wing keep up a constant chirping, and occasionally a sudden jarring sound may be heard; and as this is usually followed by an immediate deviation of the flock from its course, it has been thought by some observers to be nothing less than a word of command; but I have been able to account for it almost completely to my satisfaction. On watching with a little patience, any person may observe that simultaneously with the utterance of the peculiar sound, one bird makes a rapid dart towards a near neighbour, and the two, in their excitement, forgetting to direct their course aright, depart from the common track, thus leading the whole flock astray; for birds upon the wing are always ready to imitate any sudden movement upon the part of an object near them, whether it be a stone thrown among them or one of their number falling to the ground. That the note in question is sometimes at least one of anger I have repeatedly observed, when two of the birds have been quarrelling over their food; but it must also have some other meaning, for it is uttered in chorus by the whole flock during the performance of those rapid wheels close to the surface which I have attempted to describe above. Seen against a dark hill-side or a lowering sky, a flock of these birds presents an exceedingly beautiful appearance, and it may then be seen how aptly the term "snow-flake" has been applied to the species. I am acquainted with no more pleasing combination of sight and sound than

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that afforded when a cloud of these birds, backed by a dark grey sky, descends as it were in a shower to the ground, to the music of their own sweet tinkling notes.

The Snow Bunting associates but little with other species, except in severe winter weather, when it will approach houses, and feed in company with mountain linnets and house-sparrows. I believe it always roosts upon the ground. Macgillivray remarks that although flocks often come down to the shore to feed, he had never found mollusca in the stomach; and he conjectures that they resort thither merely to obtain the small quantities of sand which are required for the trituration of the seeds and grain which seem to constitute their entire food. These observations are fully borne out by my own.

Ornithologists will perhaps scarcely forgive me for highly recommending the beautiful and innocent "snow flake" as a perfect luxury for the table; but I must plead guilty to having slain scores of them—and of many other species too—for purposes not precisely scientific. Should these ornithologists, not being gifted with the digestive organs of the vikings' race, or at least with those of the Struthionidæ, meditate passing a winter in the north isles, I would advise them to withhold their criticism until upon their return they can conscientiously aver that failing health has not driven them to a like extremity; unless, indeed, their sojourn has been with the laird, the minister, or, still better, with the factor.

Many Scotch naturalists of high authority, Mr Gray the latest among the number, are unanimous in the opinion that the Snow Bunting breeds in some parts of the British Isles, and I am only too happy to be able to testify to the soundness of such an opinion by facts which have occurred to my own knowledge. Many years ago, having observed pairs in summer plumage, upon the hill and cliffs of Saxaford, from May till August, I became convinced that the birds must breed there, my suspicions being almost confirmed by seeing two eggs among the spoils of a local dealer, but which of course were of little value to me, it being then the honourably confiding

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custom to allow a purchaser to name the eggs according to his own idea or belief, and to pay accordingly, the dealer knowing more about fish and hosiery than about eggs, especially of so small a size. No certainty in the matter was arrived at until the 2nd July 1861, when a man discovered a nest and three fresh eggs, all of which he brought to me. He had found them in the crevice of a rock near the top of one of the high sea-cliffs at Burrafirth, below the hill of Saxaford. The nest was rather shallow, and was composed of coarse grass and fibrous roots, lined with wool and fine hair of horses and cows. After this I often observed the birds in the breeding season, once in July, about the cliffs at Graveland, but usually near the old spot. The most likely place for the nest being among loose stones, and exceedingly dangerous, and a poor man having lost his life near that spot soon afterwards, it was long before I saw any more of the eggs. However, I certainly observed, and took good care to purchase, three more which I saw in the dealer's box in the winter of 1867, he stoutly maintaining that they were "larks" of some kind, and that Greenland fishermen had often told him that Snow Bunting's eggs were blue. In the same collection were some common bunting's eggs, but these the man knew, although they are by no means frequently met with. He could give me no information as to their history, it being his custom to exchange goods for eggs, valuing the latter, in those days, at about fourpence per dozen.

One of the main objects, during my long and weary expatriation, was a thorough acquaintance with the Snow Bunting, and its habits at all times of the year, an object, alas! but very imperfectly attained. It is pleasing, however, to call to mind that the last among the records of my sojourn in Shetland is connected with this bird. Immediately before my final departure in 1871, a man who used to collect for me brought, as a present, a Snow Bunting's nest and four eggs, confessing that he had found them among the stones of the demolished cairn on Saxaford the summer before, but that he had been keeping them for a gentleman who had promised him

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a far higher price than I had offered. The nest was very similar to the previous one, but was a little thicker, and contained a few pieces of fern in the walls. The eggs were not so strongly marked as in Mr Hewitson's figure, and, unlike the first specimens, had the ground slightly tinged with brown; the markings were of a pale Vandyke brown colour, and there were also smaller marks of purplish grey, and a few deep brown dots. The eggs do not appear so round in form as those of the common buntings; their average size is fifteen-sixteenths by eleven-sixteenths of an inch.

THE BUNTING.

Emberiza miliaria.

CORN-BILL.

This is a common winter visitor, appearing in flocks about the middle of September or early in October, and leaving in May. I have, however, observed flocks of considerable size as late as the middle of June. That the same flocks visit the same localities year after year, there can be no doubt. For several winters in succession, an individual having a large white mark on the back appeared at Halligarth with the first flock as regularly as the season came round. The very few which remain to breed do not begin laying earlier than the middle of May. Although shy on their arrival, they become extremely bold as winter advances, resorting chiefly to corn-yards, where they make great havoc among the stacks, pulling out the straws in order to get at the ears. Macgillivray denies their ability to do this; but in Shetland, as a rule, the stacks are small, and very loosely put together. In the garden also they do much damage, pulling up the young peas, and nipping off the young buds,—not for the sake of the grubs they may contain, but for food, as I have ascertained by shooting the birds in the very act. They are fond of sitting in the

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bushes, but though many regularly assemble there at night, it appears that they pass the hours of darkness among the leaves and dry weeds upon the ground beneath. On a winter's night I have often disturbed a flock among the stubble or withered grass. The short peculiar song commences early in March.

THE BLACK-HEADED BUNTING.

Emberiza schœniclus.

According to the best authorities, this bird is not uncommon in Orkney, where it has occasionally been known to breed. It doubtless occurs in various parts of Shetland, but hitherto no instances have been recorded except three, by myself, and all of them at Halligarth. First a female was observed on the 12th February 1863, feeding in a wet ditch with some common buntings; and afterwards, on the 12th of April, a male, also in company with buntings. These two remained for a very short time, but the third, a female, took up its abode among some little willows on the 15th of May 1866, and seemed inclined to remain. It was killed by a Halligarth cat as soon as it had become a little familiar.

THE YELLOWHAMMER.

Emberiza citrinella.

This handsome bird is but little known in Shetland, where, however, I have frequently seen single specimens;—chiefly in Unst, and in every instance in or near a garden. It has never been known to breed in any of the islands, but Mr Gray reports that the nest has been found in Orkney.

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H.L.S. del.t

M&N Hanhart lith.

LERWICK FROM BRESSAY.

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I. *FRINGILLIDÆ.*

THE CHAFFINCH.

Fringilla cælebs.

The Chaffinch, which in 1844 (when the gardens at Balta Sound were but newly planted) was mentioned by Thomas Edmondston as "a winter visitant, but rare," is now plentiful every winter, wherever there are gardens to attract it. Early in November, sometimes in September and October, flocks of considerable size arrive, mingling with such other birds of similar habits as may happen to be in the neighbourhood; then, soon scattering, the greater number gradually disappear. They usually arrive with an easterly wind. The number of females is very small in comparison with that of males, but I have observed both sexes at all times of the year, except in the months of May, June, and July, when the few Chaffinches which are occasionally seen are invariably males.

THE BRAMBLING, OR MOUNTAIN FINCH.

Fringilla montifringilla.

This handsome bird, though now occurring in many parts of Shetland, was unrecognised until the autumn of 1860, when I observed a few males in the garden at Halligarth. Since that time it has gradually become more frequent, arriving with chaffinches in considerable numbers, but, unlike them, remaining only a short time, as if for the purpose of resting before proceeding on the journey southwards. It reappears in March and April, the plumage at that season having a very faded and dingy appearance, although the assumption of the breeding dress has already commenced. I have caught them with a lantern, and attempted to cage them; but seldom kept them

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for more than a few days, so incessant were their endeavours to escape. They refused every kind of food which was offered. I have ascertained that this species has also become more abundant in Orkney during the last ten or twelve years, but it has not yet been observed there in summer.

As might be supposed, the Brambling roosts in trees, or at some distance from the ground, where possible; but it is often compelled to put up with very poor accommodation. I remember one night about the end of October being suddenly overtaken in the hills by a tremendous gale from the north-east, accompanied by complete darkness and sleety rain. Stopping to trim my lantern under the shelter of a solitary plantie cruive * upon the hill-side, I heard a peculiar twittering sound within, and, on looking over the wall, saw to my astonishment that the ground was thickly covered—in some parts literally paved—with Bramblings and Chaffinches. The sight was a singular one indeed; the poor benighted travellers had chosen the only shelter that was to be had, and seemed to be worn out with fatigue, not one of them attempting flight, or even moving more than its head, which always followed every movement of the lantern. I then left them, envying them their comfortable quarters, and early next morning had the pleasure of seeing a large flock, probably the same one, in the garden at Buness, where, I may add, many of the Chaffinches remained for about six weeks, the Mountain Finches disappearing after the fifth day. I observed unusual numbers of females and first year's birds of both species.

THE HOUSE-SPARROW.

Passer domesticus.

It is almost needless to remark that the House-Sparrow is plentiful in Shetland, breeding abundantly, and as ready there

* *Plantie cruive.*—A circular patch of ground in the open, about three or four yards in diameter, surrounded by a loose wall, and used by the inhabitants for growing the young cabbage plants.

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as elsewhere to consider its right to food and property at least equal to that of mankind. In autumn it gathers into large flocks, doing great damage to the ripening oats and barley,—no wheat is cultivated in Shetland,—and I think this is the only crime we can lay to its charge, except that it frustrates every attempt to rear gooseberries; for though the blossom forms well, no sooner is the fruit the size of a mustard-seed than the Sparrows devour it, seldom leaving as many as a dozen berries among as many bushes.

It would be futile to here enter into the controversy as to the expediency of exterminating or encouraging certain species of birds. Nothing but the temperate and deliberate consideration of an accumulation of well-authenticated facts will ever solve the difficulty. The following, however, seems worthy of record. About fifteen years ago, the little village of Dale, in Unst, was much infested with Sparrows, which, breeding abundantly in every possible situation, yearly assembled in large flocks at the time of the ripening of the corn. A newly-arrived Methodist preacher, a Londoner, observing this, at once proceeded to explain to the inhabitants the nature of "Sparrow clubs," and to urge upon them the necessity of losing no time in exterminating the whole of the mischievous race by every possible means. So implicitly were his instructions obeyed, that for many successive years scarcely a grain of corn was touched, and the villagers were lost in admiration at the success of the experiment Some time after his departure, on chancing to inquire how it happened that at Dale the potato crop was always a failure, although formerly the opposite was the case, I was informed that of late years "the Lord had sent a storie" (worm) which destroyed the whole crop. Coupling this failure with the absence of Sparrows, I asked and even entreated the people to try the experiment of allowing the poor birds to remain unmolested; but the proposal was merely received with the usual amount of head-shaking, and with the argument, which I did not attempt to refute, that a Sparrow had never been seen to pick up a "storie," but that scores might be noticed

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upon any harvest-day destroying the corn. Whether or not the people had become tired of persecuting the birds I cannot say, but from thenceforward the Sparrows were allowed to breed without molestation; and within two years from that time the potato crop was excellent, and it has continued so ever since, nor do the people complain of a smaller quantity of corn than during the time of the persecution.

My friend Mr J. T. Reid, in his interesting "Art Rambles in Shetland," describes a strange superstition which he heard of in Papa Stour, and which even yet lingers in some districts. It appears that the inhabitants of that most picturesque of islands used to believe that the beadle of the kirk had the power of "telling" the Sparrows away so as never to return. On payment of a fee, the man would go round the field crying, "Coosh-sh-sh, Hoosh-sh-sh; awa' frae dis toon, an' never come again." The "sparrow-beadle" is said to be still living in the island, though no longer employed in his sparrow-telling capacity.

Even in the Shetland climate, the House-Sparrow rears two, sometimes three broods in the season, food being always abundant, and the nest being built so substantially as to insure a proper height of temperature even during the cutting east winds of April and May, when many a youngling of other birds perishes for want of warmth during the short absence of the parents. I have found eggs as early as the 11th of April, and young birds only a few days old as late as the 15th of December. What becomes of the birds of the year during the long winter nights has often been questioned; but, after having disturbed the midnight slumbers of many scores of Sparrows, I feel no hesitation in saying that, as a rule, those individuals which are found sleeping in the nest are the owners, while those which roost in stacks, barns, cow-sheds, and similar places, are either birds of less than a year old, or adults whose nests have been destroyed. There can be no doubt that the old birds occupy their nests during winter, keeping them in constant repair, and, as the temperature decreases, adding to the thickness of the lining.

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Of a pair which occupied a nest in a cottage wall for several years, the female was very lightly coloured. The young were always marked in the usual manner, but no change occurred in the mother's appearance.

THE GREENFINCH.

Coccothraustes chloris.

The Greenfinch has within the last few years become a regular visitant in winter, though until very recently it was exceedingly rare even at that season. The first time that I observed it was on the 28th of October 1864, when a gale from the north-east brought a small flock, other flights arriving at intervals shortly afterwards. During the early part of November immense flocks continued to arrive, consisting chiefly of females and young birds, although many fine old males were among them. Very large numbers roosted in the garden every night, and many were captured as they flew against the windows after dark, or entered the house, attracted no doubt by the light within. None of the inhabitants to whom I spoke had seen the bird before, except one of the Baliasta sages; but as he once solemnly assured me that he had seen a flock of canaries (bramblings?) in his cornyard, I may be excused for doubting the accuracy of his statement. Those which flew into the houses, and were considered worth keeping, soon became quite tame; but the old males at first showed great unwillingness to submit to restraint. They were chiefly fed with oats soaked in milk, of which diet they soon became excessively fond.

Soon after the publication of the late Thomas Edmondston's list of Shetland birds in the "Zoologist" for 1844, many notes were added in his own handwriting, one of them especially expressing his doubts as to the finches. The present species being crossed out of the list, I can trace no instance of its occurrence in Shetland prior to the day on which Mr Edmondston

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of Buness, in shooting at some twites in the autumn of 1858, accidentally winged one of these birds, and brought it home with him. Thus comfortably provided for, it soon became a most docile and interesting pet, living for many years to cheer its kind master and mistress with its sprightly song. The next specimen was shot in 1862, also by Mr Edmondston, under precisely similar circumstances; but no more were seen until October 28, 1864, as mentioned above. Since then, except in the year 1867, they have appeared regularly every autumn, and are now fairly on the Shetland list. Although wild during the day, the Greenfinches become much more familiar about sunset, then permitting a very near approach, and after dark being the easiest of all birds to catch with a lantern,—a method which I often employed when wishing to procure specimens for drawing or for comparison with as little destruction to life as possible. Even when the night is not very dark, it is easy for one person alone to take small birds by hand from the branches upon which they are roosting. It is only necessary to turn the light of the lantern among the trees, walk up briskly when a bird is seen, keeping the light full upon it, and then, as soon as within arm's reach, to suddenly lower the lantern with one hand, and with the other hand snatch the dazzled and bewildered bird from its perch. The finches and redwings submit very quietly, but the impudent sparrows try hard to revenge themselves upon the fingers of their captors. One drawback, however, to this way of catching birds is, that when they become alarmed and take flight, they are apt to injure themselves by dashing either against the branches or the dark garden walls. In 1869, on October 5th, the wind blowing steadily from the north-west, we had an arrival of greenfinches, chaffinches (male and female), bramblings, and redwings; and with the help of the lantern I caught as many as I liked, sometimes taking as many as thirty of a night. The largest capture I ever made in this manner, but it was a very extraordinary one, was in March 1871, when a very wet and stormy night had crowded the branches with birds. The bag was as follows:—

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Blackbirds (females, 2; males, 2),	4
Chaffinches (males, 9; females, 2),	11
Bramblings (male, 1; females and young, 4),	5
Sparrows (males, 4; females and young, 14),	18
Greenfinches (males, 6; females and young, 36),	42
Mountain linnets,	29
	109

In justice to myself, I should observe that only four of these were "retained."

Obs.—In the marginal notes to his published list Thomas Edmondston remarks that the hawfinch was inserted upon hearsay evidence only, and that he added the name of the goldfinch simply because a friend, hearing the note of some other bird, mistook it for that of the goldfinch, assuring him that the latter species was "almost common in Bressay." Upon inquiry, I cannot ascertain that the goldfinch has either been seen or heard of there, or indeed in any part of Shetland.

THE SISKIN.

Carduelis spinus.

This does not occur either in the last-named list, or in Messrs Baikie and Heddle's catalogue of the birds of Orkney. It is a very scarce winter visitor to Shetland, making its appearance sometimes in small flocks, but more frequently in twos or threes. Once a single specimen was seen and shot upon the pier at Buness. I have never observed more than a dozen at one time. In their habits the Siskins much resemble titmice, displaying the same absurd antics and keeping up a constant chirping while feeding. Although familiar enough at first, they became very wild after having been once fired at. Their chief food seems to consist of the aphides which infest the sycamore.

Obs.—Although the linnet (*Linota cannabina*) is mentioned in most Shetland lists as common—sometimes as breeding—I cannot hear of a single instance in which the bird has ever been seen in any one of the islands. When Shetlanders speak

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of the "common linnet," they of course mean the twite, thus unintentionally misleading strangers.

THE MEALY REDPOLE.

Linota canescens.

I can find no mention of this species in any of the Orkney or Shetland lists, it having probably been mistaken for the Lesser Redpole, which, according to Messrs Baikie and Heddle, is indigenous to their islands. It is now a regular winter visitant to Shetland, appearing first in the north of Unst, and gradually, though very slowly, proceeding southwards. I first met with it on the 25th of September 1860. The name of Stone Redpole has been very appropriately bestowed upon it, bare stony hillsides being its favourite haunt. It resorts to gardens and cultivated places for the sake of obtaining food, but no sooner is the flock thoroughly alarmed than it betakes itself to some open stony spot, where it is sometimes almost impossible to distinguish a single bird, so similar in colour is the plumage to that of the surrounding objects. It is fond of feeding in ditches, and when the common sorrel (*Rumex acetosa*) is abundant, so deeply engrossed does it become in its occupation of seed-hunting that the flock may be approached within the distance of a few feet.

In autumn it is not unusual to see numbers of these pretty birds clinging to the garden walls, busily searching for food among the moss; the stackyard also is a favourite resort, on account of the numerous seeds which are there to be found. Very large flocks sometimes arrive as early as the beginning of September. From these I have shot males in almost perfect summer plumage, the under parts being of a beautiful deep rose colour.

When busily engaged in feeding, these Redpoles often become mixed with greenfinches, chaffinches, or twites, but on being alarmed they immediately separate.

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THE LESSER REDPOLE.

Linota linaria.

Naturally preferring trees and cultivated districts, the Lesser Redpole is far less numerous than the preceding species; notwithstanding, under stress of weather, a few may occasionally be seen beneath the shelter of walls or in ditches, contenting themselves with such food as may be obtained there until a favourable change enables them to depart. Except in its avoidance of open stony places, this species almost precisely resembles the last in habit as in almost every action; so much so, indeed, that for the ordinary observer to confuse the two is quite pardonable. It, however, wants the light colour above the tail which is so conspicuous in the Mealy Redpole. Both the birds vary considerably in size, but examination of a large number of males of each species leads me to believe that the following measurements are as near the average as possible:—

	Mealy Redpole.	Lesser Redpole.
Length, ...	5¾ in.	4⅝ in.
Wing from flexure to tip, .	3¼ ,,	2¾ ,,
Bill from front to tip, . .	5/12 ,,	¼ ,,
Tarsus, ...	½ ,,	½ ,,
Middle toe and its claw, .	7/12 ,,	7/12 ,,

THE MOUNTAIN LINNET OR TWITE.

Linota flavirostris.

LINTIE.

This mischievous but sprightly and interesting little bird is generally distributed throughout the islands, remaining all the year, and collecting into very large flocks during the winter. At that season they are seldom met with in uncultivated districts, chiefly frequenting the neighbourhood of small villages, or "toons" as they are termed, where, among sheep, cattle, and horses, they contrive to pick up a living; but they find the corn-yards the great attraction, assembling there in large numbers, and even settling themselves down for the night in

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holes bored among the straw. Taking advantage of this latter habit, the people sometimes walk round after dark, beating the stacks with flails, and thus kill considerable numbers of the birds, comforting their consciences with the idea that no better proof could be given of the "lintie's" destructiveness.* But I am far from being convinced upon this latter point. No doubt, so many birds must consume a large quantity of corn, but it is only upon comparatively rare occasions—for instance, when the sheaves are being removed, and the ears consequently fully exposed—that I have found the crop or stomach full of corn. Time after time I have shot them in the very act of boring into the stacks, but in most instances have found very little besides small seeds. Indeed, when one comes to reflect that the sheaves are always placed with their heads towards the centre, one cannot see how the Linnet could obtain any but a very moderate supply of grain, for, unlike the buntings, they have not sufficient strength to draw out the straws. The object of their search seems to be the innumerable small seeds of the various kinds of weeds which are reaped along with the corn, and which are of course also stacked. Numberless dissections have proved this to be the case. But this is only the finishing stroke to the lintie's good deeds at the close of the harvest. No sooner are the sheaves brought home than these birds crowd to the fields, where I grant they feed for a while almost exclusively upon the dropped grain; but as soon as all this is picked up, they at once begin upon the seeds, and many a cropful of the noxious *Sinapis arvensis* have I found at such times. But the gravest charge of all against the Mountain Linnet is that of destroying the newly springing turnips; and here at least their guilt must be admitted. The moment the tender seed-leaves begin to appear, the Linnets come in swarms and bite them off, first deliberately pulling up the

* The members of a certain family of my acquaintance have for many years borne the name of "linties," a cognomen acquired by their well-known habit of visiting their neighbours' cornyards for dishonest purposes. To this day the very allusion to a "lintie" in the presence of any of them is regarded as a covert insult.

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entire plant. Then, again, as to the cabbages. The people, as I have remarked already, raise their seedlings almost exclusively in the little walled enclosures called "*plantie cruives.*" The sight of a thick crop of seedlings, perhaps only a few hours old, is far too much for the morals of the robbers, and in a very short space of time it becomes necessary for the ground to be resown. But is not prevention better than cure? A sufficient quantity of old herring-net to cover an ordinary-sized sitting-room would entirely check the mischief. Then as to the turnips: careful watching for a few days would surely prevent nine-tenths of the evil, and many a poor neighbour would gladly allow his children to perform this duty merely for their keep during the day. With old-fashioned farmers, who still insist that hand-sowing and covering the drills by means of a shuffling motion of the feet is the best method, the objection is made that the seed comes up irregularly, and that the process of watching would occupy too many days; but it is to be hoped that this difficulty will soon be overcome by certain enterprising Scotchmen who have within the last few years succeeded most effectually in removing many of the old standing prejudices of this nature—prejudices very seriously detrimental to that improvement in the material prosperity of the people the need for which is so painfully apparent to all who take an interest in their welfare.

It would be unfair to deny that the myriads of linnets which are spread over the whole islands must be the means of destroying enormous quantities of corn and turnips every year, but I never yet met with the farmer who could prove that he was really out of pocket by their visitations. How much rather may he not have gained by the destruction of seeds of various weeds, and by the rooting out and devouring of the hateful wild mustard, another cruciferous plant to which the lintie shows no mercy? Few would censure the man who should fire into a flock which was pulling up his plants by wholesale; but the cruel attempt to slaughter the Mountain Linnet by thousands during the winter is useless. I have known it tried and persevered in

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until by the end of winter scarcely a bird was to be seen; but the attempt to exterminate the midges would have proved as futile. When the turnips began to spring, there once more were multitudes of linties, prepared not only to devour turnip-tops, but to build their nests and rear their young in every suitable locality.

Mountain Linnets seldom feed quietly when in flocks, but keep up a constant brisk chattering during the whole time. In fine spring weather they sit in thousands upon the walls, or on the topmost branches of the shrubs, singing and chattering without intermission, but instantly becoming silent on the approach of danger; then a few individuals begin their well-known call-note, and should the danger become imminent, the whole flock will simultaneously take wing for safer quarters, where in a very short time the clamour recommences with renewed vigour.

In winter, as well as in summer, adult males have red upon the lower part of the back, but the winter colouring is by far the less brilliant.

Laying begins about the middle of May, and fresh eggs may occasionally be found as late as the second week in August. The eggs vary considerably, and some varieties might readily be mistaken for those of the smaller finches. The eggs of the second laying are usually smaller and more slightly marked than those of the first. I have often found linties' eggs upon the ground among the seedling turnips, as though the bird had been too busily occupied in the work of destruction to go home and lay. Some years ago, among the heather near the Loch of Cliff, I surprised a bird of this species upon a nest containing five pure *white* eggs. The nests are exceedingly numerous; indeed, at the proper season, it is scarcely possible to walk round a moderate-sized farm without finding one or more. The Twite is usually described as building only among grass or heath, but I have found the nest in almost every variety of situation; as, for instance, in walls, in peat stacks, among heaps of stones, in rugged banks of streams, in cavities beneath large

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stones lying singly upon the ground; occasionally, though less frequently, upon ledges or in crevices of sea cliffs; twice in low elders at the height of about four feet from the ground; once in a rabbit-burrow, once in a hay-stack, and once in the wall of a stable, considerably above my reach.

In Unst, at least, the nesting habits have latterly undergone a considerable change, no doubt in consequence of the rapidly-increasing growth of the young trees. Of late years, not a summer has passed without my finding many nests at Halligarth, chiefly in gooseberry bushes and in elders, the branches of which, being much crowded and less divergent than those of the other trees, afforded a better resting-place for the nest in windy weather. As may be supposed, many were destroyed by cats; but a safe place once found was again resorted to, not only in the same season, but in the succeeding one also. Early in May 1870, Miss Cameron Mouat showed me a Twite's nest in the greenhouse at Gardie. It was an exceedingly beautiful object, being placed among the branches of a juniper which was growing in a large flower-pot. Two eggs were laid, and the female began to sit closely, quite regardless of the frequent presence of numerous admiring visitors, becoming so tame indeed as to feed while they stood by. It is almost needless to add that the poor bird was soon afterwards killed by a cat. One very favourite situation for the nest is under a long strip of turf which has been nearly reversed by the plough. In such a situation I once found the commencement of a nest, and derived much interest from watching the progress of the work. When one of the birds disclosed to me the site chosen for its future habitation by flying out suddenly at my feet, I could perceive nothing more than a slight hollow which had been scraped beneath the turf; and although I frequently visited the spot in the course of the day, nothing more was seen of the bird until about twenty hours afterwards, when the pair began placing a number of fibrous roots in front, in the form of a half-circle, the back part of the cavity being left untouched. In a few hours' time some stalks of plants were added, and from four o'clock in the afternoon

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until noon next day the birds disappeared. They next laid the foundation of the other half of the circle, continuing steadily at their task until the structure was equal in height all round. They now appeared more eager to proceed, working so diligently that by the evening of the fourth day the mass of roots, grass, and stalks of plants formed a perfectly circular wall, an inch and a half in height and about two inches in thickness, somewhat loose and irregular upon the outside, but with the inside neatly interwoven, and sloping rather suddenly to the bare patch of ground enclosed. On the morning of the fifth day I observed a few feathers upon the ground in the centre, and the number rapidly increased until the sides were covered more than half-way towards the brim; in the evening the feathers were almost concealed by a quantity of cows' hair, among which a little wool was intermingled. More work was done upon that day than upon any other. Having often found rabbit's fur in the nest of the Twite, I now procured a quantity of that material, and strewed it over the ground, not too near, lest it might cause suspicion. Although it was soon discovered, the birds were not quite contented, using it rather sparingly, and working it into a felt-like mass with wool and the hair of cows and ponies. This process appeared to be one of difficulty and to require great care, for it was not before the evening of the eighth day that the task was completed, the brim of the cavity being by that time neatly finished off with a few long black horse-hairs, and measuring exactly two inches and a quarter in diameter. On the ninth day the birds were not to be seen, but by the morning of the tenth day the first egg was laid. Every succeeding morning I found an additional egg, until five had been laid, and the female began to sit. It is seldom that the lining of the nest touches the ground, as it did in this instance, a layer of fibrous roots, &c., being generally interposed. I observed that the thickness of the lower part of the nest is greatest in those specimens which have been found in bushes far above the ground. On another occasion, in August 1865, my attention being attracted by the peculiar

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notes of a pair of Twites, I searched among some tall shrubs, and found three newly-fledged young ones, and soon afterwards a nest with one addled egg, near the top of an elder, about nine feet from the ground. The nest was very large and clumsily made, and altogether different in appearance from the neat little structures one finds in walls or upon the hill-sides. Those in the latter situations usually have very little beneath the lining, sometimes nothing at all; but in this one there was a mass, about three inches and a half in thickness, of coarse roots and pieces of dried brittle elder twigs, entirely filling the fork of the branch. The outer portion of the nest itself was composed of coarse roots and stalks of plants, and next to this was a layer of very fine roots; then came a layer of curved white duck's feathers; and lastly, a thick layer of wool, intermixed with the hair of cows and ponies. The straggling appearance of the nest was partly due to the very unusual addition of large quill feathers about the upper edge, the longest measuring eight inches in length. The inside diameter of the nest was about three inches.

In the same summer a cottager's boy found a nest of six young Twites among the heather, in a slight hollow which the heavy showers of the previous night had partly filled with water. Seeing that the young birds were nearly dead, he carried them home, and, by the help of a warm fire and plenty of wool, succeeded so far in restoring four of them that they were very soon able to take food. Two days later, observing the parent birds still in the neighbourhood, he replaced the nest and its contents, the ground having now become dry, and almost immediately afterwards he saw them carrying food to the nestlings. Several days after that, fearing that the birds would be discovered by other boys, and thinking that they were sufficiently strong to do without their parents' care, he once more took them home and fed them, but, to his surprise, the old birds, probably attracted by the cries of the young, very soon discovered them, and at once resumed charge of them, feeding them diligently, and passing in and out through the

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open window without the smallest sign of fear, although the room was almost constantly occupied by the cottager and his family, and continuing their care until the young were fully fledged.

I have ventured to note down the above details, at the risk of undue prolixity, in the hope that they may prove not uninteresting to some whose opportunities for observing the Mountain Linnet in a wild state have been less favourable than my own.

THE BULLFINCH.

Pyrrhula vulgaris.

I saw a female Bullfinch at Halligarth on the 16th October 1863. It was afterwards shot, and came into my possession. For some days previously south and south-east winds had prevailed, but not of sufficient strength to account for the presence of such an unexpected visitor. Messrs Baikie and Heddle record the capture of one in Orkney in 1809; but I can hear of no other Shetland example than the above-mentioned.

THE COMMON CROSSBILL.

Loxia curvirostra.

The gradual increase in the number of Crossbills visiting most parts of the British islands has long been observed, and the Shetlands offer no exception to the rule. As recently as 1844, it was considered a rare straggler; but since that time, and in proportion to the growth of the young trees, it has been seen with increasing frequency and in larger numbers. During my residence in Unst, not a year passed without its appearance, often in large flocks, from the middle of May even until so late as the middle of December. The frequent occurrence of young birds in May and June tends to confirm the belief that this species is a very early breeder. The Crossbills almost

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invariably arrive with a north or north-east wind, but seemingly only to rest, although temptations to remain are often too strong to be resisted; for, as far as I can ascertain, they nearly always appear first in Unst, and, as a rule, they occur in the other islands in only very limited numbers. During the dark nights of autumn, considerable numbers kill themselves against the lantern of the Flugga lighthouse, which is placed upon an outlying rock at the extreme north of Unst, —a very significant fact with regard to their line of flight. I also remember three which met a similar fate at the Skerries light on the east coast, but none were seen in any other part of the islands for some weeks afterwards. Solitary individuals now and then appear in the gardens, but never without others being observed in some neighbouring localities. Early in July some very large flocks alighted at Skaw, in the north of Unst, remaining there for many weeks, although the spot is exceedingly bleak and bare. A great many were killed, and, I am sorry to say, sent to me by the fishermen, who, never having seen anything like them before, resolved to make the most of the opportunity. As many as twenty-one were brought to me by a man who had killed them all at two shots. Although the remnant of the flocks remained there so long, only very few visited any other part of the island. In the stomachs of those which I examined were numerous small seeds, mixed with sand and small sharp fragments of stone. It is probably from the defect of food that they do not always confine themselves to trees. I have seen them about cabbage gardens, and even upon the bare hills. At Halligarth I have often observed them climbing about the corn-stacks; on being disturbed from which, they would merely fly as far as the outhouse roofs, sitting there in rows until the danger was over. The crops of those shot upon such occasions contained small seeds and grain; the latter seems always to be broken before it is swallowed. In the garden, rowan-berries were largely fed upon; and by concealing myself I have been able closely to observe the mode of feeding. Holding on to a branch, the

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bird would swing head downwards, and, snapping off a cluster of berries, follow it as it caught among the twigs or fell upon the ground, and, seizing it in the bill, would carry it to the top of the nearest wall; then grasping the bunch with one foot,—thus resting upon one only,—it would speedily break open the berries and extract the seeds, never intentionally swallowing any of the pulp. It was not until I began to watch this bird carefully that I became aware of its at least occasionally feeding upon insects; yet that it does so I have proved both by dissection and by previous observation. In summer, the elm leaves were often nearly destroyed by large numbers of aphides, which, gathering upon the underside, caused each leaf partially to dry up and shrivel. The Crossbills gather these leaves, and, holding them in precisely the same manner as the rowan-berries, rapidly clear them of their inhabitants, dropping them in hundreds at the foot of the tree. A very troublesome small green caterpillar, which rolls itself up in the sycamore leaves, is also eagerly sought out and devoured.

During the day the Crossbills keep mostly to the gardens, but in harvest time they resort chiefly to the corn-fields. Another fact in their history, which appears to have been hitherto unobserved, is, that although as a rule they roost in the trees and bushes, they very often retire to the stubble for the night. I have marked them down at dusk, and disturbed them in the same spot late at night. Had I even come upon them accidentally, their unmistakable notes would instantly have made known their species. Most observers have remarked the tameness of Crossbills while feeding, and their apparent heedlessness of danger, even when a gun has been repeatedly discharged among them. This, however, I imagine, is not so frequently the case with large flocks, where, of course, there may be a considerable number of old birds, which alone give the alarm note. This note is instantly acted upon by the whole flock, which flies off to some safer place; but as the shooter usually selects the most brilliantly coloured, and therefore the oldest bird, the others, of course, hearing no signal to

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depart, pay but little heed to the report of the gun, and continue their occupation, seldom becoming really alarmed until several more of their number have fallen. This may appear a fanciful theory, but it is certain that when the bird killed by the first shot is a young one, the flock, large or small, will, upon almost every occasion, make off to a considerable distance.

THE AMERICAN WHITE-WINGED CROSSBILL.

Loxia leucoptera.

Out of place in the present work though the name of this very rare bird may at first sight appear, I cannot but feel convinced that there are sufficient grounds for its insertion, although it is but lately I have arrived at this conclusion. On the 4th of September 1859, the very year in which the appearance of a large flock near Banff was recorded in "The Zoologist,"* I observed several Crossbills in the garden at Halligarth, and succeeded in shooting two, but only after much difficulty, not only on account of the thickness of the foliage, but also from the unwillingness of the birds to come into view. Having no books with me, I registered them in my notes either as two-barred Crossbills, or a very small variety of the common species. A lad who was working in the garden told me that he had seen a very beautiful brightly-coloured bird, but I was unable to obtain even a glimpse of it, although the notes were often heard among the thick shrubs. The two that were shot proved to be a female and a young bird, very like specimens of the Common Crossbill, but with both greater and lesser wing-coverts tipped with white, forming two distinct bars upon each wing. The young bird was dingier in colour than the young of the Common Crossbill, but resembled it in the numerous dusky streaks upon the body; the female was of a brighter greenish colour, with a good deal of yellow about the

* Zool. 1859, p. 6631.

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plumage, especially at the lower part of the back. The measurements of both were precisely alike. I place them in comparison with an average specimen of *Loxia curvirostra*, a bird which varies greatly in size.

	L. curvirostra.	L. leucoptera.
Whole length,	7 inches.	5⅛ inches.
Wing from flexure to tip,	3⅞ ,,	3½ ,,
Bill from front to tip,	¾ ,,	...
Tarsus,	⅞ ,,	...
Middle toe and its claw,	⅝ ,,	...

It will be seen by the above that the hind claw is longer than its toe, a distinguishing character between this species and *L. bifasciata* mentioned by Yarrell.*

II. *STURNIDÆ.*

THE COMMON STARLING.

Sturnus vulgaris.

STARN.

Whatever may be the case upon the mainland of Scotland, where we are informed by Mr Gray that thirty years ago the Starling was a comparatively scarce bird, it is certain that Orkney and Shetland may be included among the outlying islands in which, according to the same authority, it has been a permanent resident from time immemorial. It also appears to be equally abundant in Faroe. It breeds almost everywhere —in sea-cliffs, beneath rocks scattered upon the shore, in walls either of turf or stone, and sometimes even in peat-stacks; and in the island of Uyea I have also found it in rabbit burrows. The first brood is left to itself soon after it becomes perfectly fledged; this joins with other broods in the neighbourhood in similar circumstances, and thus many small flocks are found, which become largely increased when reinforced by

* The table of measurements has been left thus incomplete in the MS., nor can I find materials for finishing it.—Ed.

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the second broods, accompanied by the parents. They keep together all the winter, dispersing about the middle of March, sometimes a month later if the weather be severe, and associate with Fieldfares, Golden Plovers, Gulls, and indeed with most birds which feed upon the ground. When the Starling confines itself to the harvest fields for a week or two, it becomes excellent eating; in winter and spring, however, when it resorts to the sea-shore, or, far worse, to farm-yard middens, or, worse yet, to the too frequent carcase of sheep, cow, or pony, the shooting it for the table is out of the question: indeed, with the exception of the barn-door fowl and the domestic duck, it would be difficult to find a more disgusting feeder. In early autumn the flocks roost among the shrubs; but after the leaves have fallen, they generally betake themselves to the stubble, which in Shetland is always long, except in those districts where an improved style of farming prevails.

The Merlin preys extensively upon Starlings; and although no birds are so ready to "mob" it under ordinary circumstances, no sooner does the enemy appear above them, when they are in the trees, than they display the greatest terror, shrinking back among the foliage, and uttering cries of fear and apprehension. The Starling imitates the note or cry of almost every other bird, not even excepting the Herring Gull, but its chief models seem to be the Oyster-catcher, the Redshank, the Golden Plover, the Whimbrel, and the Curlew; these it mimics so perfectly as often to deceive the most experienced ear. Its own spring note is well known and appreciated, but it occasionally degenerates into a perfect medley of sounds, including the notes of other species which are decidedly unmusical.

I am sorry to have to say anything in support of the charge of egg-stealing, after Mr Yarrell's lenient treatment of it; I have, however, known the Skylark's eggs destroyed, and have detected a pair of Starlings in the very act of devouring the eggs of Pigeons, although supposed to be merely attending to their own brood in one of the compartments of the dovecot.

The male has been accused of laziness, but very unjustly.

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Not only does he assist in building and hatching, but he also carries a plentiful supply of food to his sitting mate; and when the nestlings are hatched, as well as after they have left the nest, not even the mother herself is more assiduous in her endeavours to supply their unceasing wants.

The autumn moult of the young is completed early in October.

In the winter of 1868, the Rev. D. Webster, minister of the island of Fetlar, frequently saw a pure white Starling in a flock near the manse. A similar variety is recorded as having been obtained in Orkney in 1846.

THE ROSE-COLOURED PASTOR.

Pastor roseus.

This attractive species, which has long been known as an occasional visitor to the Orkney Isles, has also been observed in Unst, once by Thomas Edmondston in April 1843, and thrice by myself during the last thirteen years. It is scarcely probable that the bird visits no other island of the Shetland group. Were it to be looked for, it might in all likelihood be not infrequently detected among the flocks of Starlings which everywhere abound. These flocks, however, are but little noticed, small birds being seldom or never eaten by the Shetlanders.

On the 10th of August 1860, I shot a male in its second year's plumage at Halligarth, but observed nothing further of the Pastor until the 7th of September 1863, when I procured another specimen at the same place. It was a young bird, and as it flew past with some Starlings its light colour immediately attracted my attention; but never having previously seen one in its first year's plumage, I was unable to satisfy myself as to its species without a closer inspection. The flock alighted among a number of cows, and then, by creeping behind a loosely-built wall, I approached sufficiently near to obtain a good view of

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the stranger, and to make some notes as to its general appearance and habits, which are usually described as precisely resembling those of the Starling. In this case some slight points of difference most certainly existed. The flock was several times disturbed, and flew off to other feeding-grounds; but the Pastor, while apparently desirous of keeping up with it, was not seldom left some distance behind, and even upon the ground it sometimes wandered far away. When the Starlings made any sudden stop or wheel, it became widely separated from them; but, like them, it usually alighted abruptly, although occasionally circling a little before it settled. It approached the cows fearlessly, and twice darted rapidly forward to seize an insect apparently upon the foot of one of them. I think it procured the whole of its food either upon or above the surface of the ground; for during the whole time of my presence, a period of about three hours, I never observed it boring with its bill. Its companions were constantly thus boring, the hour being early and the ground still soft. When by an incautious movement I either occasioned a slight noise or exposed myself to view, the main body of the Starlings, obedient to the warning cry of the most vigilant, immediately paused, looked up in their peculiar manner, and took flight; and the Pastor, when it happened to notice any movements of alarm, at once took the hint and made off with the rest, but the cry alone was evidently lost upon it, meeting with not the smallest attention. Upon the ground the Pastor was certainly well able to outstrip its companions, progressing, like them, by means of a series of rapid steps, and differing chiefly by its lighter and more vivacious movements and by carrying the body more horizontally. Indeed, I fancied that in general appearance it more closely resembled a Blackbird. It was rather fond of standing upon a stone or a slight eminence whenever an opportunity offered; and altogether its peculiar motions and apparently careless search for food presented a decided contrast to the sober business-like demeanour of the Starlings. Its note was a little like that of a Starling, but less

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harsh. At last, seeing that the flock was becoming more and more difficult to approach, and having very little more time at my disposal, I shot the lighter-coloured bird, which proved to be a Rose-coloured Pastor, a male only a few months old. The stomach contained some small beetles, a few worms, and a considerable number of small gnats.

A bird so unattractive in appearance as this species in the plumage of its first autumn might very easily be overlooked, and I have no doubt that in this state it has more than once been thrown aside, under the supposition that it was a light-coloured Starling or a young Thrush; nor is it before a side-by-side comparison is made that an inexperienced observer becomes fully aware of the difference. In first year's Starlings, however, the feathers upon the front of the head extend no further than the posterior margin of the nostril, while in both my specimens of the Rose-coloured Pastor the feathers extend some distance beyond, partly occupying the depression above the nostrils—a distinction which seems to hold good at all ages. The following description of the Rose-coloured Pastor, in the plumage of its first autumn, was taken before the skin was removed:—

Whole length, ...	8¾ inches.
Wing, from carpal joint to tip, . . .	5½ ,,
Bill (measured along the upper ridge), . .	8½ lines.
Tarsus, ...	1 inch.
Middle toe and its claw, ...	1¼ ,,

Tip of upper mandible dusky brown, the remainder of the bill yellow. Eye reddish brown. Forehead and top of the head light dingy brown, each feather centred with darker; cheeks, ear-coverts, back, and scapulars rather paler than top of head; upon the lore a few small scattered black feathers. Tail feathers light brown, with still paler edges. The whole of the wing feathers, including both sets of coverts, dingy brown, edged with soiled white. Chin and throat white; breast and front of neck white, tinged with brown, each feather darker in the centre. Abdomen white; under tail-coverts white, mottled with several shades of light brown. Tarsi and feet light reddish brown, paler than those of the starling, and more slender in

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form. Head without any appearance of a crest. The specimen killed upon the 10th of August (a month earlier) is black and salmon-colour, like an adult, only the tints are less pure than in the adult; the crest is not so conspicuous, and some brown feathers among the scapulars seem to be the remains of the old dress, the bird not having completed moulting. From the above facts we may conclude that the moult takes place about the end of July or the beginning of August, and also may gain ample evidence, if it be yet wanting, that the perfect plumage of the adult is not attained before the third autumn. The measurements of both the above specimens are precisely similar, and also agree with those of an adult.

The third and last occasion of my meeting with this bird was on the 27th of July 1871, when I saw a beautiful male in full plumage flitting about a stony field near Ernesdaal, in Unst. It was very shy, and seldom remained longer than a few minutes in one spot. It remained in the neighbourhood just nine days, feeding under the shady sides of the walls, and as night approached retiring to the garden for shelter. During the whole time of its stay it continued very shy, and when disturbed seldom flew less than three hundred yards before alighting. Sometimes it was seen feeding among cows, and when starlings also happened to be there it would join company with them; but though it would rise with the flock, it invariably separated from it after flying for a short distance, and seemed quite careless about rejoining.

III. *CORVIDÆ.*

THE RAVEN.

Corvus corax.

CORBIE.

The Raven is resident and very abundant in Shetland, but large numbers which are certainly not natives arrive in autumn,

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usually about the middle of October, remaining until the breeding season begins. At such a time I have seen upwards of forty within the space of a few acres, busily searching for the numerous insects with which the hills then abound. In November also, when the yearly slaughter of the cows takes place, enormous numbers of Ravens come to feed upon the offal, and this occurs throughout the whole islands; for at that time there is scarcely a village or an outlying farm in which the work is not being carried on. Sometimes they arrive without any apparent reason, but an unusual abundance of carrion is sure by some mysterious means to attract them from distant parts. A notable instance of this occurred during the third week in April 1864, when a number of whales were driven ashore at Uyea Sound, and, having been "flinched," were left to decay above high-water mark. Many of the Ravens, if not most of them, must have been sitting upon their eggs at that time, and it therefore appears rather unaccountable that as night approached a considerable number of the gorged birds would flap across to the island of Uyea, where they would remain in safety until daylight enabled them to return to the horrid feast. The flock was continually added to by new arrivals, some of them coming to procure choice morsels either for their young or for their sitting mates, and the numbers gradually increased until the 18th of June, after which day, the food being nearly all gone, the crowd of birds speedily began to lessen. On visiting the island of Uyea one evening about that time, I was astonished to observe the edge of the cliff perfectly blackened with Ravens preparing to roost among the ledges. I heard several estimates of their number, but, after making considerable allowance for exaggeration, felt satisfied that eight hundred would be very near the mark. Walking along the cliffs after they had retired, and shouting to bring them out, my brother-in-law fired and killed three at one shot as they flew from beneath—a previously unheard-of feat.

During the winter the chief mischief done by the Raven is among the weakly ponies and sheep, many a one of these perish-

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ing miserably under its ruthless attacks. I am sure, however, that my friends in Shetland will heartily agree with me that the neglect of the ponies by their owners in the winter-time is often a disgrace to humanity. No doubt it may gratify a man's vanity to be able to call a score or so of ponies, good, bad, and indifferent, his own, while unable to feed even one-third of them, and it is probable that he experiences a sort of melancholy pleasure in recounting to his neighbours the ravages committed amongst his herd by "those rascally corbies," forgetting that he himself has placed the temptation in the way. It is an unfortunate boast among Shetlanders that their ponies can live upon almost nothing; and the boast is so often repeated as to be at last believed in and acted upon. Thus it happens that when the snow comes, the poor animals may too commonly be seen congregating about the walls unfed and uncared for, sometimes for weeks in succession, occasionally creeping down to the beach to pluck a few mouthfuls of seaweed; and when, either on account of the depth of snow or from utter weakness, they are unable to move from the wretched shelter of the low wall, they will positively gnaw the hair from one another's bodies, as I myself have witnessed. Then, if the snow continues, nothing remains for the less robust among them but to lie down and die; and if the animal's sufferings happen to be speedily and cruelly ended by a hungry Raven, he of course is supposed to relieve the owner of all responsibility.

I regret, however, my inability to add even one word in defence of the charges of greed, cruelty, and open robbery, universally preferred against the Raven. The supply of starved and ill-used ponies, large though it is, would but scantily provide for the whole community; therefore the birds will scour the hills and glens in quest of a weakly sheep, and murder it without the smallest hesitation. Indeed, I have seen Ravens hunting the terrified animals down the hillside, striking at their heads repeatedly, and, as I imagined, endeavouring to drive them into the loch below. Sometimes an unfortunate sheep or pony, pressed with hunger, will partly descend a high cliff, attracted

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by the tempting grassy ledges, and, unable without great care to turn round upon the narrow shelf, is easily frightened over by the Ravens, and is precipitated upon the rocks beneath. The mode of attacking a large animal is well known. A blow or two with the bill destroys the eyes, death soon follows, and then the meal is ready. In winter, when a pony dies near its owner's cottage, the skin is removed, and too often the carcase is left within a few yards of the door. At these times, chiefly in the early morning when all is quiet, the Ravens assemble to the feast in considerable numbers; indeed, I once observed as many as seventeen feeding upon and hovering about one such carcase. It is seldom, however, that on these occasions they are unaccompanied by birds of other species; a random shot might happen to kill either Raven, Hooded Crow, Starling, great black-backed or glaucous Gull, all of which are carrion feeders at certain seasons.

As soon as the young are hatched, the Raven becomes both daring and crafty, and is then truly a pest to the whole country, stealing the ducks' and hens' eggs, and frequently killing the birds themselves. Those are generally selected which are straying in the open fields, so that when the robber returns again and again to carry off portions of the plunder, he is far out of shot. Early in the morning, however, the victims are often snatched from the very door of the cottage. At this season, the live stock upon the hills require to be carefully watched, otherwise the earliest lambs and foals are almost sure to be slaughtered. It is no wonder therefore that farmers feel no remorse in slaying both parents and nestlings by means of a poisoned carcase placed on a ledge of the cliff, out of the way of dogs, &c. The only objection to such a plan is that it causes destruction also to the Gulls, but this is never deemed worthy of consideration.

Many attempts have been made to drive Ravens from Shetland, or at least to lessen their number, but without avail. Traps are almost useless, nor are guns much more effectual, except for the moment. Poison has gone greatly out of favour

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since the destruction of some valuable dogs by its incautious use. Not long ago, a payment of threepence was offered for every Raven's head and twopence for the head of every Hooded Crow. This answered well until the responsible parties, finding the evil so far remedied, and regardless of the future, deliberately refused to hand over the promised reward. The natural result is that the pest is now as great as ever, the people declining to enter again into so unprofitable a speculation. With all its cunning, however, the over exercise of that quality sometimes proves the bird's destruction. For example, a friend of mine, wishing to destroy a troublesome Raven, set a rat-gin near its haunts, covering it carefully with fine mould, and leaving only the bait exposed. But the bird was not to be thus deceived; he would walk round the trap, and even hover above it, as though about to make the fatal pounce, the demonstration invariably resulting in his retiring to a small hillock close at hand, from whence he seemed to fancy he could eye the tempting morsel in safety. This state of things lasted for two days, when my friend slyly buried the trap in the hillock, neatly covering it with moss, but leaving the bait in its old place. Scarcely had he left the spot when the Raven came circling over the bait, and, alighting upon the hill to reconnoitre, was instantly caught by the feet.

It is by no means difficult to get within shooting distance of young birds, but the old ones are extremely wary, especially in those parts where guns are much in use. Even when they are feeding upon carrion at the foot of a wall, it is not often that they can be approached, for they are so suspicious that they will constantly interrupt their meal to rise upon wing for a yard or two; when, if the expectant gunner be observed, his chance is lost. Occasionally, however, this habit defeats its own purpose; for when there happens to be any place of concealment within a hundred yards or so of the spot, it is easy to run up as the bird disappears, and thus make certain of a shot. In a case of this kind, the Raven is sadly taken aback, and seldom fails to utter a confused croaking sound as he

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clumsily endeavours to fly off, his own haste only seeming to increase his embarrassment. I have often succeeded in shooting them by hiding among the bushes at Halligarth, or by crouching in the angle of a wall which lies in their known track; for they have regular hunting-grounds, which they traverse most methodically several times in the course of the day. A corner formed by the junction of two walls makes an excellent hiding-place, the side which is selected depending upon the direction of the wind; for Ravens, like most other birds, greatly prefer flying to windward. When engaged in hunting they scarcely ever cross a wall abruptly; their habit is to sail slowly along its top, keeping exactly above it, and following every bend, so as to be able to inspect both sides at once. It is probable that in these situations they procure the field-mice which are sometimes found in their stomachs. Ravens seem to be well aware how near they may approach man with impunity. A gunner is kept at the respectful distance of about eighty yards; field labourers are regarded with less caution; and an equestrian will not cause any alarm before he is within easy stone's throw.

Some years ago I accidentally discovered a very successful method of shooting these birds, the only objection to it being the expenditure of time which it occasions. I was lying upon the heather, keeping my gun beneath me to shelter it from a slight shower, when five Ravens appeared in the distance, and, soon catching sight of me, began hovering and croaking overhead. Their curiosity was evidently excited, and they showed every desire to cultivate a closer acquaintance; but though I stirred neither hand nor foot, about half an hour passed without any further advance upon their part. Presently the profound truth dawned upon me that dead animals never move their eyes, and accordingly, to make the resemblance as complete as possible, I closed my own. Very shortly afterwards the birds began to wheel nearer, croaking louder than before, and occasionally alighting upon a distant hillock; and at last, when they came within easy range, I started up

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suddenly and killed two. Upon several other occasions I have shot them in a similar manner, but they would never come within reach either when the gun was exposed to view or when my eyes were open. Although so cautious in their dealings with mankind, they will fearlessly approach a pony, even when it is giving evident signs of life.

A Raven will often sit until a dog is almost within reach, and then rise slowly and with apparent carelessness; but this indifference is only assumed, for an aggressive movement on the part of the dog is nearly always accompanied by a hurried ascent upon that of the Raven. Sometimes, however, as in a case which occurred at Balta Sound a few years ago, the Raven's impudence brings its own punishment. A dog, which had long been very much annoyed by one of these birds which frequented his master's farm, suddenly gave up all attempt at retaliation, and was repeatedly seen proceeding upon his way with apparent unconcern, while his tormentor was evidently using every means to provoke the usual snarl and its accompanying unsuccessful spring. Seemingly in despair of ever being able to grapple with his enemy, the dog could never again be enticed to forget his own want of wings, and consequently the Raven grew bolder and bolder, hopping along almost beneath his very nose, and sometimes even striking him with its claws. One day, however, as the dog was passing along a low turf wall, the Raven thought fit to repeat the performance, keeping most provokingly a little in advance, and occasionally varying the amusement with a croak or a sly pounce. The dog trotted along as briskly as usual, looking neither to the right nor to the left. Then the Raven, making a short circuit, again assailed him from above, and passing over his head, was about to alight deliberately upon the wall, when the dog, making a mighty bound forward, seized his enemy by the wing, and tore him literally to shreds.

So much has already been said and written with regard to the superstitions connected with this bird from time immemorial, that the subject may almost be considered exhausted.

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To one, however, I must allude, namely, the belief that the Raven is immediately attracted to a house where a corpse is lying. Often, under such circumstances, I used to be exceedingly perplexed at seeing one or more of these dismal-looking birds upon the roof, and it was only upon at last observing one pounce upon a chicken and make off with it that the truth became apparent. In most parts of Shetland the cottages are isolated, so that when the inhabitants of one of them are out of sight the immediate neighbourhood is perfectly quiet. Now as soon as a death occurs the door is shut, and, with very few exceptions, scarcely a human being is to be seen; therefore the Ravens, availing themselves of the favourable opportunity, alight fearlessly and carry off whatever may first present itself. It is doubtless for much the same reason, the Shetlanders being most regular in their attendance at kirk, that Ravens do far more harm on Sunday than on any other day of the week.

Like the raptorial birds, Ravens pair for life. As early as January they begin to frequent the locality in which they bred during the previous spring, soon afterwards commencing the necessary repairs of the former nest, or, if it has been seriously injured by the winter's gales, building another upon the old foundation. If, however, the nest has been much disturbed, or if the young were removed during the previous season, it frequently happens that a new site is chosen, though seldom at any great distance. There being no trees in Shetland save only the few which have been planted in the gardens, a high cliff is always resorted to, sometimes inland; but the nests are invariably difficult of access. I have only been able to reach three, and could not have got near these without a rope. Sometimes the nest is situated in a wide crevice, oftener upon a ledge; but in either case it is screened from observation from above by overhanging rocks. It is of large size, and is composed of dry sea-weed, withered plants, and heather twigs, and is lined with wool, over which is placed a large quantity of hair of cows or ponies; the cavity, which is seldom very regularly

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formed, measuring about a foot across. I have seen the birds carrying on their work during a fall of snow, but stormy wet weather nearly always entirely puts a stop to it. The time of laying is very uncertain, but I do not think it is ever earlier than the first week in March. Most of the eggs which I have seen—and they number many dozens—were obtained about the middle or end of April; yet, as early as the 4th of that month, I have known both fresh eggs and half-fledged young to be taken on the same day. Dr Arthur Edmondston is incorrect in stating the number of eggs to be three, four being the number usually found; five or six are sometimes laid, but I never could hear of more than four young birds in a nest. I have observed that when five or six eggs occur, one or two are sparingly coloured and of unusual shape. The upper figure in Mr Hewitson's work gives an excellent idea of the egg, both as to size and colour; yet not infrequently the egg is greatly elongated, or, on the other hand, is nearly as small as that of the Hooded Crow. The average length seems to be slightly under two inches. The male and female take an equal share in building the nest and in feeding the young; but, so far as I have observed, it is only occasionally that the male assists in hatching, his chief duty seeming to be that of hovering about the edge of the cliff, in order to give timely warning on the approach of an intruder. The sitting female is always ready to dash out from the nest and give chase to any chance gull or other large bird which may happen to pass too near.

It is strange that a bird so shy and suspicious should so obstinately attach itself to one particular spot, even after the nest has been very rudely disturbed. One day, for instance, a party of boys discovering a nest in a deep "gyo" threw stones into it from a projecting point of rock on the opposite side, laying it in ruins, and breaking the three eggs which it contained, but, strange to say, without causing the birds to desert the spot; for in less than a fortnight afterwards not only was the nest repaired, but it even contained a fresh set of eggs.

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Obs.—The pied variety of the Raven which so frequently occurs in Faroe has not as yet, so far as I know, been observed in Shetland. I have examined many specimens of these pied Ravens, but in each of them the markings have been unsymmetrical. The idea formerly entertained that it was a distinct species is now, it appears, entirely abandoned.

THE CARRION CROW.

Corvus corone.

Rarely seen, and only after severe gales. I have never observed more than three at one time. It is equally scarce in Orkney, where, as in Shetland, it is confounded by the inhabitants with the Rook, a more frequent visitor.

THE HOODED CROW.

Corvus cornix.

CRAA—HOODIE CRAA.

Closely resembling the Raven in most of its habits, the Hooded Crow fully makes up by its boldness and perseverance for such advantage as the other may possess in point of bulk and strength. Its great abundance also tends, in no small degree, to render it a very formidable "pest of the farm." It is, generally speaking, bolder than the Raven, but it less frequently attacks the larger animals; nevertheless, when driven to extremities by hunger, or by the necessities of a clamorous brood, it will kill young lambs, and fearlessly attack domestic ducks and fowls. I am quite convinced that it pairs for life; and the idea is strengthened by the fact that when a flock is thoroughly dispersed, by means of a gun or otherwise, couples of old birds fly off together. The large flocks which assemble in spring have given rise to the extraordinary accounts one occa-

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sionally hears of the "Craas' Court," it being supposed that they meet at stated periods for the purpose of trying and executing criminals. We are gravely assured that merely a few take part in the proceedings, the remainder being spectators, and that on the breaking up of the "court" the bodies of the malefactors are found dead upon the ground. Even comparatively modern writers have been at some pains to revive the legend, and that too without a word of dissent from the popular belief. Macgillivray, however, with his usual caution, concludes his allusion to the subject with the remark that "some more accurate observations are wanted." For my own part, I can only assert that I have watched these assemblages scores of times, but have observed nothing particularly worthy of mention, with the exception of an occasional short-lived squabble, such as is constantly occurring in any large flock of birds. I believe, however, that a considerable amount of *courting* takes place at these meetings, having noticed that pairing* takes place very soon after the disposal of the flock. Low, speaking of Orkney, takes a somewhat similar view of the case when he says, "They meet in the spring in vast flocks, as if to consult on the important affairs of summer, and after flying about in this manner for eight days or so, separate into pairs and betake themselves to the mountains."

In most parts of Shetland, the Hooded Crow permits a tolerably near approach, provided nothing in the shape of a gun is to be seen; and when busily engaged, in stormy weather, watching the waves as they wash up supplies of food from the sea, there is seldom any difficulty in walking up boldly within twenty yards of it. Unlike most birds, the Hoodies are not nearly so shy when in flocks as at other times; and if one of their number is dropped, the remainder will hover above, offering the easiest shot imaginable for the second barrel. When wounded they strike with the bill open, and are capable of inflicting a very severe bite; yet so nicely can the power be controlled that I have seen a skylark's egg carried away by a

* Query, Of the unmated birds?—Ed.

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tame bird and laid down without fracture. The Hooded Crow is known all over Scotland as a remorseless slaughterer of young birds, as well as an incorrigible egg stealer. Besides its depredations among the poultry and their eggs, it visits the marshes in quest of the eggs of Snipe and wild Duck, and diligently searches the moors for the nest of the Golden Plover, and is repaid for its labour by many an egg and young bird. On a clear summer's evening I have sat upon the hills by the half-hour at a time, watching pairs of these cold-blooded robbers carrying away their prey, and have heard the long wailing whistle of the parent birds sounding so like the words, "Oh, dear! Oh, de-ear!" that it became quite painful to listen. Sometimes, in sly quiet corners among the rocks, I have found scores of empty shells of sea birds' eggs, brought there by Hooded Crows. The species recognised have always been Cormorant, Shag, Puffin, and Kittiwake; though by what means the Puffin's eggs could have been abstracted from the burrows is a mystery. These, from their small size, might be carried whole in the bill, but the eggs of the larger Gulls are devoured upon the spot, as the fowlers assure me. Every egg had a large hole in the side, but so little other damage is done that I have often picked out specimens for my collection from the accumulation of shells in a Hoodie's feeding-place. It is scarcely possible that a Hooded Crow can carry in its bill a broader egg than that of the Cormorant or Puffin. I have often given a common fowl's egg, of precisely the same breadth as the egg of the two species last mentioned, to a tame Hooded Crow, and then watched the bird's proceedings. Any easily portable article of food—even such as a Tern's or a Ringed Plover's egg—was invariably carried away and hidden; but with the fowl's egg the case was different. The bird would make repeated attempts to grasp it with the bill, but always ineffectually, the egg slipping and rolling about in a most provoking manner. At last the Crow would knock a hole in the side of the egg and suck up part of the contents, and would then grasp one of the edges with its bill and carry the rest off

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in triumph. After a few months, no attempt was made to carry the egg before breaking.*

This egg-loving thief will even condescend to rob the nests of the smallest birds. A few summers ago I found a Rock Pipit's nest near the top of a cliff, and left it there while I went to follow a Whimbrel, at the same time remarking that a Hooded Crow was watching me from a neighbouring rock. On my return, a Hoodie, which I supposed to be the very same, got up from the Pipit's nest, and on examining the latter I found it empty. How the spot could have been so accurately marked, or what could have induced the bird to visit it, must be decided by those who can better explain its freaks and fancies.

Although, upon some occasions, so determined an enemy to poultry, it is only too glad to feed in their company round the cottage doors in winter time, when dispirited and weakened by cold and hunger. It apparently prefers animal food to all other, but it also feeds largely upon corn, doing no small damage to the sheaves in the field and the stacks in the yard; but I do not think it prefers shell-fish to fish proper, although so often seen feeding upon them. On the shore it seeks for mollusca of various kinds, as well as for small crabs and for echini, the latter being often of considerable size. Its habit of breaking shells by letting them fall from a height upon the rocks is well known on most parts of the coast. Not only shells but bones also are treated in this manner, the bird rising to the height of about fifty feet, sometimes much less, and then letting them fall, following them very closely in their descent. I have read a most vivid description of the process, concluding with an appropriate remark upon the wonderful instinct which leads the bird to select a spot suitable for the performance, and likewise upon the marvellous accuracy of its aim. Perhaps my opportunities have been less

* The egg of the Cormorant has, however, a soft chalky outer surface, nor does that of the Puffin possess the smoothness which characterises the eggs of gallinaceous birds. Hence, no doubt, the greater ease with which the one kind of egg can be carried away, as affording a readier grip for the bill.—Ed.

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favourable than those of other observers, but unfortunately I have repeatedly seen the bone or the mollusc dropped upon soft sandy ground, or even upon short grass.* In most cases, however, it is let fall upon the shore, where a nice aim indeed would be required to avoid the stones. Once I saw a Hooded Crow drop a piece of bone upon the only patch of sandy ground on a long line of rocky coast, and it was not until after frequent and persevering trials that the bone was accidentally broken upon a small rock. Now, had that spot been the only *rocky* one in the neighbourhood, or even had it been occupied at the time by some Shetland Æschylus, I should doubtless have lost no time in presenting a full account of the fact to the readers of the "Zoologist," in illustration of the almost human sagacity displayed by the Hooded Crow. After a heavy gale, it may be seen carrying away the roots of sea-weed to some safe place, where undisturbed it may pick out the small shells, &c., which they contain.

Many years ago my brother and I—then accompanying him on a naturalist's expedition, as my first introduction to Shetland—were on the little island of Hunie, when a Hooded Crow paid a visit to the breeding grounds there, with what intention I know not, unless he felt himself unable to resist the attractions offered by the eggs and young birds. Instantly the whole body of terns arose, and assailed him so determinedly that he was glad to make off with all possible speed for the opposite shore. But his retreat was not considered sufficient, and the angry little terns followed him like a swarm of bees, even after he had left the island. One made a dash at him, and he stooped to avoid the blow; another and another followed up the attack so rapidly, that the crow, dropping as each one approached, gradually descended nearer to the water without being able to rise a single foot. Lower and lower he went,

* Another writer on the natural history of this species, having perceived this error, at once concludes that the object of the bird is not to fracture the shell, but to kill the animal by concussion. It is difficult to imagine the advantage which would be thus gained in the case of a periwinkle, for instance, nor are we told what Hoodie intends to "concuss" within a marrow-bone.

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until at last the tips of his wings dipped into the water, and then his fate was decided. The poor wretch cawed and struggled most desperately, and made tremendous exertions to rise, but this only hastened his end; his feathers became saturated, and soon his head drooped beneath the surface. Seeing him motionless, the Terns now appeared to be satisfied, and after a few more dashes towards his body, and a few more cries of anger, they returned peaceably to their nests.

The Hooded Crow makes a most intelligent and interesting pet, but it requires to be kept in confinement, otherwise it will get into the house and do serious mischief. I have known one enter a window, carry off everything from a dressing-table, and then completely destroy nearly the whole of the wall-paper, beginning at the cornice. It also proves very troublesome to children. The only variety I have ever seen had both sets of wing coverts white.

Dr Arthur Edmondston, writing of the Hooded Crow, observes:—"In the gardens at Busta, where there are several trees of considerable height, a pair of crows annually build their nest; but in every other part of the country they carefully conceal the spot in which they nestle." The last sentence is scarcely correct, the nest being easily found. Compared with the Raven, though not with most other Shetland birds, it is a late breeder, eggs being seldom found earlier than the middle of May. They are four or five, sometimes six in number, and, as a rule, precisely resemble those of the Carrion Crow; occasionally they are much elongated, and I have some also which are nearly round. The nest is smaller in size than that of the Raven, but is composed of much the same materials, and is built upon the ledge of a cliff, or among piles of loose rocks, sometimes inland, often in a cliff less than twenty feet in height. Although the Raven displays much cunning in the choice of a site, the Hooded Crow, on the contrary, seems to take no small pains to so place the nest that it shall be easily accessible to man. I am by no means a good climber, but I never saw more than one of these nests that was

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beyond my reach. The most singular-looking nest which has yet come under my notice was that of a Hooded Crow. The upper part was, as usual, composed of large sea-weed stalks, &c., lined with wool, feathers, moss, and hair; but this was built upon a substantial foundation of bones of ponies and sheep, collected in such quantities that the mass measured nearly a yard across, and, in one part, a foot in depth. Many of the bones were of so large a size that it is difficult to imagine how they could have been carried. Nor did the peculiarity end here. In my walks along shore I had at various times collected a number of quills of geese and great black-backed gulls, depositing them for safety in the crevice of a rock; but the hoard having been discovered by the crows, it was unceremoniously appropriated by them, and long afterwards the quills were to be seen sticking like so many skewers around the brim of the nest, crossed and interwoven in a manner well calculated to afford great strength, even though they certainly gave it a very odd appearance. I have since found several nests, each having a foundation of bones.

Once, when walking along the cliffs, I lost the stem of a stethoscope, and saw nothing more of it until some weeks later, when a man found it built into a Hoodie's nest. So little care is exercised in the choice of a site, that I have known a nest washed away by an unusually high tide, and another built near the same spot soon afterwards.

A pair of Hooded Crows, one of them distinguished by a broken leg, was pointed out to me as having built within about a hundred yards of the same spot for a great number of years, although robbed almost annually. After this I observed them building there regularly for the twelve years preceding my departure from Shetland. While sitting, the habits of this species are similar to those of the Raven, and it shows an equal degree of boldness in attacking all birds which venture too near.

I once knew a Hooded Crow voluntarily take to the water when wounded. It had fallen to the ground, winged; and

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before I could come up it deliberately waded into the loch, and, half-wading, half-swimming, often assisting itself with its sound wing, quickly managed to get across. The distance was about thirty yards.

THE ROOK.

Corvus frugilegus.

A year seldom passes without a few Rooks being seen in Shetland, but they can only be considered as stragglers, driven by storms, and resting for a few days before seeking a country more suited to their habits. Even were trees numerous in Shetland, it would be difficult for Rooks to procure food in a soil so hard and full of stones. I have not observed more than eight at one time, but Miss Mouat informs me that in 1871 about two hundred visited Bressay, remaining a couple of days. Messrs Baikie and Heddle give much the same account of it in Orkney, and it seems to have been but an occasional visitor in Low's time, for he says, "Rooks are reckoned ominous if ever they appear here," adding, in a note, "When a Rook is seen people expect a famine to follow soon after."

THE JACKDAW.

Corvus monedula.

It is not often that a Jackdaw is seen in Shetland, but it has more than once occurred in large flocks. I have been informed that in the spring of 1857 a considerable number were seen about the old ruined castle at Scalloway, and that at the same time about a dozen visited the little island of Mousa, where it was supposed they intended to build in the ruins of the Pictish Burgh. I have only seen it twice in Unst, but Mr Edmondston of Buness observed a very large flock about his house in the winter of 1856.

Some of the inland rocks would form excellent nesting places,

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but Jackdaws have never been known to breed in any of the islands. In Orkney, however, a few are said to build at Barth Head in South Ronaldshay.

THE JAY.

Garrulus glandarius.

Both this and the Magpie are mentioned by Thomas Edmondston as stragglers, but in his private list I find their names scored out, and written against them the words—"Hearsay only—unauthenticated." The Magpie certainly does not occur, and I can hear of no other instance of the Jay having been observed than the one already recorded by me. This was at Balta Sound, on the 26th of August 1861, during a north-west wind, when, on opening the garden door at Halligarth, I saw a Jay rise from among the sycamores, and fly steadily away in a direction nearly due south. Had I not seen the bird, its well-known harsh cries would have been sufficient to convince me of its presence.

Scansores.

I. *PICIDÆ.*

THE GREAT SPOTTED WOODPECKER.

Picus major.

Many years ago a bird, to which the term "Norway Woodpecker" was vaguely applied, was shot in the garden at Halligarth; but as the specimen was destroyed, and no notes as to its appearance were taken, the species was unascertained until lately, when, on my showing a Great Spotted Woodpecker to the captor, he instantly remarked that it was exactly like the one above mentioned. Although this species had frequently been taken in Orkney, it was not ascertained to have occurred in

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Shetland until September 1861, when a steady breeze from the south-east brought a large flock of these strange visitors. I saw the first two at Halligarth on the 3rd of the month, and during the next few weeks great numbers were seen and captured in most parts of the Orkney and Shetland islands. As the birds were doing great damage in the garden, I shot several; but it is remarkable that among these, and also among the numerous specimens brought to me from various quarters, there was not one female, and that, with a single exception, all were birds of the year. The first two presented nothing unusual in appearance; but on taking a third into my hand, I at once remarked the worn appearance of the bill, tail, and claws. I immediately suspected that this was caused by the bird having been compelled, in the scarcity of trees, to seek its food among stones and rocks; and, upon opening the stomach, my suspicions were confirmed by the discovery, among other insects, of several small beetles which are found only upon the hills.

I afterwards saw Spotted Woodpeckers on various parts of the hills, on walls, and even in high sea-cliffs. I also saw them upon roofs of houses and upon dunghills. Several were killed upon corn-stacks, but I never found any grain in the stomach. They were frequently to be met with upon the ground among heather, where they were easily approached at all times, but more particularly in rainy or misty weather, when their plumage became saturated with moisture, rendering them too heavy for a long flight. Under such circumstances many were stoned to death by boys.

Those in the garden fed largely upon the seeds of the mountain-ash, which they procured by splitting open the berries; sometimes dropping a whole cluster upon the ground and descending to feed, but more frequently breaking the berries to pieces as they hung upon the trees. Yet even in the garden they did not confine themselves to trees; at one time they might be seen busily searching among moss and dead leaves; at another, in the midst of a tuft of coarse weeds; and, again, intently examining the spiders' webs upon the walls.

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While the unusual visit lasted, it was common enough to see the Woodpeckers in the open meadows, scattering aside the horse-dung with their bills, thus procuring abundant supplies of worms and grubs. I once crept very close to one thus engaged, and was interested to observe how cleverly it used its bill, first striking off large masses, and then dashing them into fragments, and scattering the pieces in all directions by a rapid and peculiar movement of the head from side to side. Telescopic evidence is usually thought to be of somewhat doubtful value, yet I spent many a happy half hour in observing these singular birds by means of a powerful pocket-glass. In this manner I could see them climbing the face of a large rock or of a rough stone wall, curiously peering into every crevice, and occasionally varying the amusement by a smart tap or two upon the unyielding surface of the stone.

I once saw two upon the ground engaged in desperate combat, tearing, fluttering, and tumbling about in a most comical manner, at the same time uttering a shrill noise, which was half scream, half chatter. Upon my approaching a little too near they hastily took wing, and were immediately afterwards to be seen perched upon the top of a neighbouring rock enjoying the warm sunshine, and apparently already in happy forgetfulness of their little difference. The longer the birds remained in the islands, the more worn their tails and claws became; but it was only in a very few instances that any injury to the bill could be detected. When flying, the note of the one old bird, as well as that of the young birds, resembled the "*chuck, chuck*" of the fieldfare, though uttered in a more subdued tone.

Nothing more was seen of the Spotted Woodpeckers until the 26th of September 1869, when another flock arrived, and again with a steady south-east wind. They were first observed in the south of Unst, where several were seen in the garden at Belmont by Miss Mouat; they then spread both northwards and southwards, remaining for a few weeks. As far as could be ascertained all were birds of the year, but this time there were several females among the number. As upon the former

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occasion, the longer they remained the more the claws and tails became worn. One was caught alive and placed in a herring barrel; but instead of attempting to fly, it climbed out with ease, to the great amazement of the beholders.

The 1861 flock must have been widely dispersed; for in the month of September that year, we are informed by Captain Feilden (Zool. 1872, p. 3222), two examples were procured in Faroe.

A singular variety, supposed by some to be the Middle Spotted Woodpecker, *Picus medius*, was shot by me in Unst in September 1861. It had the crown of the head red, slightly spotted with black, and in this, as in most other particulars, resembled an ordinary example of the Great Spotted Woodpecker in the plumage of its first autumn; only the under parts were much streaked with brownish black, and the whole of the wing coverts, except those immediately above the tertials, were ash-grey, with their central line black; the rump and nape of the neck were coloured in nearly the same manner, but with the central lines less distinctly marked.

In a catalogue of the birds of Shetland (Zool. 1861, p. 7341), it is stated that a specimen of the Great Black Woodpecker (*Picus martius*) had been killed at Belmont, in Unst. Dr Laurence Edmondston, who was the writer's informant, believed at the time that such an event had occurred; but I regret to find, after most careful inquiry, that the bird in question was nothing more than *Picus major*.

THE WRYNECK.

Yunx torquilla.

The Wryneck, though so rare a species in Scotland, has been found both in Orkney and Shetland; in the former once only, in the latter twice. One of the Shetland specimens was shot by Major Cameron, in the summer of 1867, in a field of his own at Gardie House, where he still has it in good preservation;

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the other was picked up dead upon a sea-beach in Unst, in the summer of 1871, by my brother-in-law. No other instance seems to have occurred.

II. *CERTHIADÆ.*

THE TREE-CREEPER.

Certhia familiaris.

In September 1859, during a gale from the south-east, I had the pleasure of observing a single example of this favourite little bird in the garden at Halligarth, to all appearance perfectly happy and at ease among the sycamores. Very soon afterwards it was brought into the house by a hateful cat, to which it of course fell an easy victim in such an unfavourable situation, the trees being at that time so much smaller than they are at present. The Creeper very rarely occurs in Orkney.

THE WREN.

Troglodytes vulgaris.

ROBIN REDBREAST(!)

This cheerful little bird is everywhere numerous, breeding abundantly, and if not disturbed returning to the same nest every year. Crevices of rocks upon the shore are often selected, and another favourite situation is beneath the turf overhanging a steep bank. I once found a nest, containing six young, half-way down a cliff about six hundred feet in height. I have examined many specimens from various parts of Shetland, thinking it possible that the northern species, *Troglodytes borealis*, might occur, but without succeeding in detecting it.

Although the Wren itself is so common, very few of the inhabitants have the least idea of what the nest is like, or even

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of where to look for it. I was once told that this bird was too much like a mouse to lay eggs! I know not how it comes to pass that the Wren is universally known to the islanders by the name of Robin Redbreast; such, however, is the fact.

THE HOOPOE.

Upupa Epops.

On referring again to Thomas Edmondston's private list, I find he has corrected his statement that a small flock appeared in Unst in the beginning of January, he having copied from a list given him by a local observer, and mistaken the word "Hooper" for "Hoopoe."

The Hoopoe has occurred in Shetland in early autumn, but only as a rare straggler, and, so far as I have observed, it comes with a northerly or north-westerly wind. The first undoubted instance was on the 21st of August 1860, when I shot one at Balta Sound. Whatever may be its habits elsewhere, they certainly have in Shetland differed greatly from all written accounts which I have met with. When alarmed it flies rather high, but seldom to a greater distance than three or four hundred yards, almost invariably alighting near a loose stone wall, among the crevices of which it will presently hide; sometimes indeed passing quite through, and suddenly appearing a long way off upon the other side. It seems to prefer wet swampy places, yet I have known it frequent the driest and most barren fields for days at a time. It runs with considerable swiftness, and even when undisturbed is exceedingly restless, seldom remaining in one spot for many seconds. Upon the wing it presents a very singular appearance, the flight being rapid, wavering, and more like that of a butterfly than of a bird. It is not easily distinguished upon the ground, but the white spotted wings and tail render it a very conspicuous object when flying. The second specimen of the Hoopoe seen by me was met with on the 15th of August 1861, in the large

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field of Buness, within a few hundred yards of the spot where the bird of the previous year was shot.*

Obs.—The Nuthatch (*Sitta Europæa*) is mentioned by Mr Gray ("Birds of West of Scotland," page 200) as having been shot in Bressay. The bird referred to is the Wryneck which was shot there by Major Cameron, as stated in my account of that species.

THE CUCKOO.

Cuculus canorus.

Singularly out of place though it may appear, away from its own leafy haunts, the Cuckoo nevertheless visits these islands not infrequently, sometimes indeed feeling so much at home as to condescend to leave an egg in the nest of some unfortunate meadow Pipit or Skylark. I have repeatedly seen well-fledged birds in autumn, and have little doubt that they were bred in the neighbourhood. Once, about the middle of July, observing a singular-looking bird fluttering among the grassy ledges in a steep ravine, I was endeavouring to climb to it when a Hooded Crow swooped down and carried it off. I just reached my gun in time, and brought down both birds. Whether I was guilty of a double murder or not it is impossible to say, but the victim, a poor unfledged Cuckoo, had been struck by the shot and was quite dead when I took it up. I therefore carried it home for a specimen, leaving the other bird at the bottom of the ravine with that blessing which all good ornithologists bestow upon Hoodie Crows and cats.

* In the note-books of the subsequent eleven years, I can find no further allusion to the occurrence of the Hoopoe in Shetland.—Ed.

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Fissirostres.

I. *MEROPIDÆ.*

THE ROLLER.

Coracias garrula.

The single instance of the occurrence of this bird in Shetland recorded by Thomas Edmondston in his list, is doubtless the one referred to by the Rev. F. O. Morris and other authors. It has been met with upon several occasions, the last of which I believe was at the end of October 1869, when one which had been in the island of Sanday was shot by Peter Anderson, one of the light-keepers, who kindly gave me the wings. An Unst man, happening to see them, instantly remarked their similarity to those of a bird he shot about ten years previously at Norwick, in that island. From the straightforward and accurate manner in which he detailed all that he could remember about the bird, I have not the slightest doubt that it was an example of the Roller.

II. *HIRUNDINIDÆ.*

THE SWALLOW.

Hirundo rustica.

This welcome bird comes to us in autumn and spring, though in very small numbers. In June 1867 I knew of a nest and eggs in a byre-roof at Petista, in Unst, and have heard of a few other well-authenticated instances of its breeding in Shetland; but such instances are very rare. Notwithstanding the bright sunshine of autumn, the Swallows seem but ill at ease when they pay a visit at that season, sitting among the shrubs or upon the house-roof; and when they do venture upon a short

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flight, they perform it in a listless manner, and very soon return to their former station.

The Swallow is seldom or never noticed by the inhabitants as distinct from other birds when upon the wing; and seen close at hand, it is regarded as something marvellously rare. A few years ago a poor crippled man caught one alive, and in a state of the greatest delight brought his prize—"something foreign," he termed it—to one who, after undeceiving him, presented him with a trifle, out of pity for his evident extreme disappointment. The cause of the latter was afterwards explained to me by the man himself. He had scarcely tasted food for several days, and, almost hopeless of being able to live through the next few hours, opened his door with the intention of wandering away, he knew not whither. Hardly had he done so when the Swallow entered. Managing to catch it, he hurried off to find the expected purchaser, the result being as above related. "Nae doot, I shall many a time be hungry again," said the poor fellow, concluding his little story; "but after this, folk needna tell me that the Lord doesna answer the prayer o' a poor man."

THE MARTIN.

Hirundo urbica.

With regard to this species, much the same may be said as of the Swallow; instances of its nesting in Shetland, though few in number, being well authenticated. Miss Mouat writes me word that it has twice built at Gardie, and that every year some may be observed about the same spot. It is by no means improbable that the piercing north-east winds which prevail during the month of May, and even until early in June, are among the causes which deter Swallows and Martins from breeding regularly in these islands.

In the autumn of 1863, so late as October 26th, standing upon the high cliff called "The Keene," about noon, I was much pleased to see a Martin, skimming after the flies which were

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hovering in the sunshine, just below the edge of the cliff. I watched it for nearly half-an-hour, and thought of old times and old faces. It was still as busily engaged as ever when I went away.

THE SAND MARTIN.

Hirundo riparia.

More than one author suggests that the Sand Martin probably breeds in Shetland, as it is well known to do in Orkney. It is, however, extremely scarce; and even were it not so, I doubt whether a locality suited to its peculiar nesting habits could be found in any of the islands. The first time of my meeting with this bird in Unst was on May 3, 1864, when I was at Baltasound. It kept entirely to the shore, skimming, or rather fluttering about, near the water's edge.

THE SWIFT.

Cypselus apus.

A few Swifts are occasionally seen in summer, but they either find the climate too chilly, or the supply of food insufficient, and very seldom remain many hours. Their well-known joyous cry is perhaps never heard in these islands. I have observed the Swift in Unst as early as the 27th of April.

III. *CAPRIMULGIDÆ.*

THE NIGHTJAR.

Caprimulgus Europæus.

Stragglers have been observed in summer and autumn for many years past, but the appearance of this species in Shetland must be regarded as merely accidental. I have seen it myself at Baltasound in the end of July, skimming over the fields, and now and then alighting on the dykes.

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RASORES.

I. *COLUMBIDÆ.*

THE WOOD PIGEON.

Columba palumbus.

It is a fact, in all probability due to its late rapid increase throughout the mainland of Scotland, that the Wood Pigeon, formerly seen in Shetland at long and irregular intervals, now appears every spring and autumn, though in small numbers, more than two seldom being observed at one time in the same locality. Those which visit the islands are mostly adult birds; they are apparently fatigued and desirous of resting immediately after their arrival, but are nevertheless in general as shy and watchful as elsewhere, only approaching the garden at dusk for the purpose of roosting, and keeping to the most open fields during the day. The only young Wood Pigeon I have seen arrived about the end of October 1864, and remained for many days. This bird was remarkably tame, and seemed greatly to wish to fraternise with the House Pigeons, which, however, as soon as it appeared among them, always flew off in great alarm, dodging it as if it were a Hawk, —a very singular fact, for they never take the slightest notice of the presence of the Rock Dove among them. Often, after coming in from the fields to the dovecot, it would retire disconsolate to the nearest chimney or roof-ridge, presenting such a pitiful appearance that one was quite inclined to feel angry with the House Pigeons for sending their unfortunate near relation to Coventry without his having committed any offence.

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H.L.S. del.t

M&N.Hanhart lith.

WOODWICK.

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THE ROCK DOVE.

Columba livia.

DOO—WILD PIGEON.

Under the name of "Stock Dove" Dr A. Edmondston very evidently describes the present species, the mistake having doubtless arisen from the Shetland custom of prefixing the word "stock" to the ordinary name of the largest or most remarkable bird of any genus.* The Rock Dove is very plentiful in Shetland. A few years ago its numbers were diminishing rapidly. The gun tax, however, has been the means of preserving this as well as many other species from steady but certain extermination, besides clearing the Peregrine from the charge of being the chief means of thinning the ranks. That it is the favourite prey of that bird cannot be denied; but it would require all the Peregrines in Shetland to produce a perceptible diminution in the flocks either of Unst or of Fetlar.

It is abundantly distributed throughout the islands, the numerous caves which occur all round the coast affording suitable breeding-places at the proper season, as well as secure retreats from the storms of winter. It is not very difficult to approach under ordinary circumstances, and when feeding in flocks among stubble is so intent upon its work as to allow the shooter to walk boldly up within range; but in neighbourhoods where it is often disturbed it is fully as shy as the Wood Pigeon. It is easy to shoot the doves as they fly in and out of their caves; but the practice is dangerous, from the risk one runs of shaking down loose fragments of stone, as well as cruel, on account of the impossibility of entering the caves in any but the calm weather of the more genial seasons of the year, when, of course, the birds are breeding.

The Rock Dove feeds in company with various other species, such as Redwings, Twites, Buntings, and tame Pigeons; and it is owing to the latter circumstance that parti-coloured birds are so frequently met with in the flocks. In winter, during

* See note p. 16.

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hard frost, it descends to shingly beaches, where it picks up small seeds among the withered plants above high-water mark. Messrs Baikie and Heddle, writing of this species, observe—"They often fly in large flocks, and are very destructive to corn fields." In my own copy of the work from which this statement is extracted, a native of Shetland, who happens to be rather fond of the Rock Pigeon, has pencilled the following words against the passage:—"Nonsense. The Pigeon only picks up the stray grain left exposed to other birds. It does vastly more good than harm." Without wishing to create a prejudice against the birds, but merely with a desire to ascertain the truth, I shot some of them in the very act of picking the grain from the sheaves in the fields, but "they were of course only sunning themselves." I shot them in the same act in rainy weather, but "the poor birds were only resting upon the sheaves in preference to the damp ground." As a still further proof, after they had been engaged fully a quarter of an hour upon the sheaves, I shot them with the grain in their very bills, and was again discomfited with the remark that I "might at any rate have given them time to swallow what they had picked up on the ground." On the other hand, it is equally difficult to convince farmers that it at least does some little good. But in this case, as in all other similar cases, the wisest course is merely to give a simple unprejudiced record of facts, leaving truth to work its own way, as it inevitably will in the end. To state that any living thing is probably useful to mankind, is but to divide one's hearers into two classes, the one clamouring for its extermination, the other prepared to protect it to an injurious extent; and a precisely similar result would have been sure to follow an opinion that it was useless or hurtful. When its enemies see it upon the sheaves, they at once begin to argue as if this were its constant habit all the year round, and they enter into the most intricate calculations as to the probable number of bushels thus consumed during the twelve months. Similarly, its would-be friends are triumphant when, on opening

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the crop of a Rock Dove shot in a stubble field, some considerable time after the corn has been cleared, it is found to be filled with the seeds and roots of noxious weeds, with merely a few grains of oats or barley intermixed, quite overlooking the fact, that had the grain been abundant the weeds would have been despised, as indeed I have ascertained by experiment with these birds in confinement. During, say, ten months in the year, when corn is not to be procured, the Rock Dove subsists chiefly upon the roots of the couch grass (*Triticum repens*), and the seeds of various troublesome weeds, such as *Sinapis arvensis, Raphanus Raphanistrum, Plantago maritima*, and *Capsella bursa-pastoris*. There can be no doubt that it greatly prefers grain to all other food, and will consume it in enormous quantities; therefore, if the farmer cannot convince himself that the evil is counterbalanced by the good, and finds his interests suffering, then by all means let him save his pocket by thinning the ranks, but also let him pause ere he attempt the dangerous experiment of total extermination. Some interesting remarks upon this species, as observed in Shetland by Mr Barclay, are published by Macgillivray in the first volume of his "British Birds" (p. 277).

It appears to be but seldom that the Rock Doves build in the smaller crevices of the cliffs, their usual habit being to congregate in the larger caves, to which man can obtain access by water only. I have often landed in these caves, or "pigeons' coves," as they are termed, but have seldom been able to get at the nests, though they must have been abundant upon every side. The few within my reach have nearly always been quite flat, and composed of grass, either dry or green, and sometimes in full flower; occasionally, it is said, a little heather is used. I have seen well-feathered young birds and fresh eggs upon the same ledge. The people believe that the Rock Dove breeds at all times of the year, and Mr Barclay thinks that "some in the flock, if well fed, will breed at any season;" but it seems that this is not precisely the case, although there are good grounds for the supposition that, with

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birds thus well fed, incubation is constantly in progress from the end of February to the end of October. In the "Zoologist" for 1864 (p. 9237), I remarked that I had never known eggs to be taken earlier than March or later than August. However, I have since had reason to believe that the breeding season extends over a much longer period, having on the 21st of January found in the ovary an egg which would certainly have been perfect in a couple of days, and having also seen fresh eggs on the 11th of October.

Like the rest of the doves, the Rock Dove is said to pair for life, and it is not improbable that the belief is correct. I myself, in visiting a cave, have seen a pair of birds occupying a nest on the very spot on which I had four summers previously known two broods reared by a pair presumably the same; one of the birds, easily recognised by its parti-coloured plumage, being certainly a member of the original pair. The male occasionally takes the female's place upon the eggs, but as he does not remain upon them so long he needs no food during the time; nevertheless, he is unwearied in attending to the wants of his sitting mate.

THE TURTLE DOVE.

Columba turtur.

Although formerly very scarce, this beautiful and timid bird may now be seen every year in certain of the gardens—that at Halligarth especially—between spring and autumn. It has always occurred singly. With nearly all, the habit was to wander away during the daytime, returning at night to roost in one particular tree. It was first known to occur in Shetland in the autumn of 1856, when Mr Edmondston of Buness shot one at Baltasound. It was but little seen from that time until about six years ago, by which time the trees had grown above the walls, offering a more suitable refuge for stragglers of this description.

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II. *TETRAONIDÆ.*

THE RED GROUSE.

Lagopus Scoticus.

[The above heading begins an otherwise blank page in the MS., and no mention of the bird occurs in any of the note-books. I am informed, however, by Mr Thomas Edmondston, that the Red Grouse has occasionally been shot in the Shetland Islands, but not often. An attempt to introduce it appears to have been made upon the Mainland, but to have failed, owing to some little mismanagement in the choice of season, the birds having been let loose at a time of year when the heather presented the smallest possible attraction for them, and speedily going elsewhere. It is, however, said to be the opinion of most Shetland people that the naturalisation of the Red Grouse in the islands is perfectly feasible, if properly set about. It was decidedly the opinion of the author, as it is likewise of my correspondent, himself well qualified to judge in such a matter. Plentiful as the Grouse is in Orkney, one would hardly think it would be unable to pick up a tolerable living in Shetland, if once fairly established. The wild and little visited peninsula on the north side of Rona's Voe would probably be the best place to choose as the starting-point for the new colony in the event of the introduction being again attempted, Rona's Hill being high enough to afford a substantial shelter in heavy weather. From personal knowledge, alike of the locality and of the bird, I venture to think the experiment might be successfully made there, if anywhere, provided only it were not frustrated by the Peregrine Falcons.—ED.]

PALLAS'S SAND GROUSE.

Syrrhaptes paradoxus.

On the morning of the 28th of October 1863, after a steady breeze from the south-east, I caught a glimpse of one of these

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birds as it dashed out of a clump of elders in the garden at Halligarth, and next day I obtained an equally brief view of one beneath a willow hedge not far from the same spot. About the same time, birds precisely answering to the description of this species were seen at Haroldswick, and also in the island of Balta. On the 2d of November I saw one in a stubble field close to the sea-beach, where, after much trouble, I shot it two days afterwards. It usually kept to the most exposed situations, and was so extremely shy that I am sure I should never have got it, had I not chanced to see it as it rose from some long grass, which served to screen me from observation. It always took wing at the slightest appearance of danger, at the same time uttering a succession of clear distinct notes. Its wildness and its similarity in colour to the soil prevented me from seeing much of its feeding habits, but it appeared to advance with a gentle gliding motion, keeping the breast so low that the feathers of that part came in contact with the ground, as was evident by their wet and muddy state when the bird was shot. The flight was much like that of a Golden Plover, and sometimes extremely rapid. Once, when the bird happened to get among some Starlings, it was surrounded and mobbed by them, as though it had been a Hawk, but a few strokes of its wings soon carried it beyond the reach of annoyance. It proved to be a female, the ovary containing a large cluster of eggs, many of which were about the size of turnip seed; the elongated feathers of the wings and tail were in perfect condition. The only fat was at the lower part of the neck, where it was present in considerable quantity, and there was a peculiar want of firmness in the flesh. The crop was distended to about the size of a chestnut with seeds, a few of which were of a kind unknown to me, but the greater number were those of *Stellaria media* and *Plantago maritima;* in the gizzard there were crushed seeds, together with a large quantity of clear rounded fragments of quartz. I was surprised to find no barley in the crop, as a great deal of that grain was strewn about the portion of ground most frequented by the bird. The appearance

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of the sternum is remarkable, partly on account of the depth of the keel, which is very great in proportion to its length, the sternum of the Swift alone—at least among British birds—being comparable with it in this respect, and certainly not exceeding it. It is very different from that of the true Grouse (and I think also from that of the Quail and the Partridge), in which the sternum always has two sinuses, with the furcula long, slender, and furnished with a large flattened process at the junction of the crura; whereas in the sternum of the present species there is but one sinus, and the furcula, besides being short and rather stout, is merely furnished with a small and somewhat rounded knob.*

THE QUAIL.

Coturnix vulgaris.

In addition to the exanple shot in Orkney in 1833, referred to by Messrs Baikie and Heddle, Mr Gray† mentions that the late Mr J. H. Dunn, of Stromness, "got eleven eggs that were found by a woman when cutting grain near his house." A very similar instance occurred at Burrafirth, in Unst, on the 25th of September 1868, when a woman brought me eight eggs which she had just found while reaping a small field of oats. She stated that a few weeks previously she had observed a bird resembling a small landrail in the same field, but as it suddenly disappeared, it was supposed to have been killed by a cat; there were ten eggs originally, but two were accidentally broken on the way over the hills. This is the only recorded instance of the occurrence of the Quail in Shetland.

According to Captain Feilden, it has bred in Faroe.

* The portion of the diary from which this notice of the Sand Grouse is taken is given in full in Appendix C, as a fair sample of the author's way of keeping his daily register.—Ed.

† Birds of West of Scotland, p. 245.

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GRALLATORES.

I. *CHARADRIIDÆ.*

THE COLLARED PRATINCOLE.

Glareola torquata.

The only specimen which has hitherto been observed north of the Tweed was shot at Baltasound on the 16th of August 1812, by Mr Bullock, who gives the following account of the event in the Linnæan Transactions:—

"When I first observed it, it rose within a few feet, and flew round me in the manner of a swallow, and then alighted close to the head of a cow that was tethered within ten yards' distance. After examining it a few minutes, I returned to the house of T. Edmondston, Esq., for my gun, and, accompanied by that gentleman's brother, went in search of it. After a short time, it came out of some growing corn, and was catching insects at the time I fired, and being wounded only in the wing, we had an opportunity of examining it alive. In the form of its bill, wings, and tail, as well as in its mode of flight, it greatly resembled the genus Hirundo; but, contrary to the whole of this family, the legs were long, and bare above the knee, agreeing with *tringa;* and, like the Sandpipers, it ran with the greatest rapidity when on the ground, or in shallow water, in pursuit of its food, which was wholly of flies, and of which its stomach was full."

This specimen is now in the British Museum.

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THE GOLDEN PLOVER.

Charadrius pluvialis.

This bird is common throughout the islands at all seasons,—the number, always large, being greatly increased for a few weeks in autumn by the very extensive flocks which then arrive. In spring and summer the birds are dispersed over the breeding grounds; but about the end of July, the young ones then being strong on the wing, the families collect into flocks, and continue together until the return of spring, at least for the most part, it being pretty certain that many of the native birds accompany the strange flocks on their way southward. In winter they keep mostly to the low grounds, and in hard weather resort constantly to the shore, often puzzling the inexperienced gunner by their black appearance when seen against the snow and the broken fragments of ice. When they are feeding at night, at the foot of a hillside burn or on swampy ground, it is often quite easy to walk among the party before they take flight, which act is always accompanied by a peculiarly terrified scream, shriller and more hurried than that which is uttered upon ordinary occasions of alarm. Like most other birds, they are far more heedless of danger in the early morning than at any other time. Newly arrived flocks, although tolerably familiar at first, soon become very wild; but it is with the home-bred birds that the shooter experiences the greatest difficulty, and with them it is often necessary to resort to various devices in order to get within shot. The most usual of these are, keeping the gun out of sight, crawling upon "all fours," or walking up by the side of a pony. In some parts of the hills, which are frequently crossed by peat-women—seldom by any men except those who carry guns—I have occasionally strapped a plaid round my waist, petticoat fashion (peat-women dispense with crinolines on week-days), and by such means I have been able to obtain several shots before the trick was discovered. Riders can always approach within thirty or forty yards of a flock before it will take alarm.

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Even when the flocks are assembled, there are sure to be some scattered birds about the hills, and these are seldom difficult to obtain. It is only necessary to imitate the whistle of the bird, and to continue doing so at intervals, replying again to the response which is sure to follow, and then to walk rapidly up and fire as it takes wing; for when its attention is thus excited, it nearly always stands upon a slight eminence, occasionally running and shifting its position to another hillock, but very seldom flying until the shooter is within about forty yards. The same note is uttered when the flocks are on the wing, but the sudden change to the cry which Macgillivray likens to the word *courlie-wee*, is a sure indication that they are about to alight. I have fancied that the note is softer in autumn, but I have probably been deceived by young birds. The note which immediately precedes flight is always shriller than the others. Were it not for the Plover's habit of rendering itself as conspicuous as possible in the manner above described, it might always elude pursuit. So precisely similar is the plumage of the upper parts to the moss-freckled ground which the bird loves to frequent, that when one is shot it is quite possible to walk within a yard of the spot where it is lying, face downwards, without perceiving it. A considerable number may be obtained in a few hours by stalking them singly upon the moors as above described; but a chance shot at a flock as it dashes heedlessly past is often the means of rapidly making up a respectable bag,—though a means only to be excused on the tyrant's plea, necessity, when the alternative is "salt fish again."

I have many times seen the Peregrine in pursuit of the Golden Plover, but the result has generally terminated in favour of the Plover by its wisely taking to the ground.

Authors differ in opinion as to whether the term *pluvialis* has been correctly applied to this species: my own note-books show that in most cases rain has not been far distant when the flocks were wheeling about noisily and at random, without any apparent cause.

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Macgillivray pleasingly and faithfully describes the habit of this interesting bird where he says,—"When searching for food in the pasture-grounds, the Plovers run about in a lively manner, pick up an object,—a worm, an insect, or a small *helix*,—then perhaps stand still and look around for a moment, and continue their occupation. If disturbed, they cease their pursuit, stand with erected neck, and gaze upon the intruder. One here and there stretches out his wings in a perpendicular direction, another utters a loud mellow scream, when suddenly all fly up and wheel away, often rising to a great height, and performing various evolutions before they alight again. Their flight is beautiful, being performed by regularly-timed beats, the birds sometimes moving in a loose or a dense body, sometimes in a straight or angular or undulated line."—("Brit. Birds," vol. iv., p. 101.)

The Golden Plover breeds abundantly in every part of Shetland, even on the small outlying holms. The breeding plumage begins to appear in January, but some weeks before it is completed—about the middle of March—the birds pair, the males becoming very noisy and flying to a considerable height. It is by no means unusual to meet with flocks long after pairs have betaken themselves to their summer haunts, a circumstance which may possibly be accounted for by the supposition that young birds breed latest; but, in point of fact, eggs may be found in a fresh state from the end of April even to the beginning of July. The nest is to be met with in almost every situation where heather occurs, even upon the highest tops of the hills, but sunny slopes facing the south or south-west are preferred. I have found more in slight hollows or miniature valleys than elsewhere; but since in such instances the nest has been betrayed mostly by the bird flying off the eggs, it is probable that my success has been due to the ease with which, in these places, an approach can be made unperceived. The Golden Plover is by no means a close sitter, often flying or running from the nest when an intruder is fully a hundred yards distant. Owing to the shyness of the birds, and to the

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difficulty of observing them closely and constantly in their breeding haunts, facts bearing upon their habits in the summer season are not easy to gather. During the last eleven years I have scarcely been able to add anything to a note written in 1864:—"In Mr Newman's useful little book, 'Birds' Nesting' (p. 34), the materials of the nest are spoken of as 'scarcely any,—a few fragments of heather and dried grasses carelessly scraped together;' and on referring to my note-books, I find that those very words might well have been applied to eleven out of the fifteen nests of this species (Golden Plover) therein described. Occasionally, however, and particularly during the first few weeks of the breeding season, the nest is constructed with more than ordinary care, and then consists of a deep saucer-shaped cavity, thickly and compactly lined with the above-mentioned materials, measuring between five and six inches across. It is almost invariably situated among moss or heather, sometimes by the side of a stone or upon some slight eminence, where there is sufficient growth to afford concealment.

"The only opportunity which has fallen to my lot of observing the length of time occupied by incubation occurred three years ago. About noon on the 7th of May I found four warm eggs, and on blowing one, ascertained that it was perfectly fresh. I afterwards visited the nest almost daily, and on the evening of the 23d observed that two of the remaining three eggs were already broken by the chicks. Next morning, on my approaching the nest, three young birds, mottled gray and yellow, ran out of the neighbouring heather: there was no appearance of broken shells in or near the nest. I have never known the male take any part in the task of incubation, although he is very attentive to his mate, and constantly supplies her with food while she is sitting; but both birds are so shy that, at such times, their habits can be witnessed only by means of long and patient watching from some good hiding-place, such as a large stone or the deep channel of a burn. While the female is sitting the male takes his station upon

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some eminence near the nest, giving warning by his loud peculiar whistle the moment an intruder appears."

Unlike the old birds, the unfledged young ones conceal themselves by sitting close to the ground among moss and heather, and are then most difficult to discover; when, however, they are compelled to attempt other means of escape, they run and double in such a manner as to render the task of catching them one of no small difficulty.

Although the colouring of the eggs varies considerably, they can scarcely be mistaken for those of any other British species, except perhaps the Peewit, from which they may be known by their larger size and richer colouring. In 1863 I made the following observations upon the colouring of these eggs; and, on looking over a large series of notes in later journals, I see no reason to make any alteration in what was then stated:—"I have long observed, with no little perplexity, the remarkable variety of colour which occurs in the eggs of the Golden Plover, and the regularity with which each colour in its turn predominates according to the degree of advancement of the season. Every year I see large numbers of the eggs, and the general rule appears to be that those which are laid early in the season have a dingy hue, the ground colour being strongly tinged with dull olive-green, and that a little later this begins gradually to become less frequent, giving place to creamy white, sometimes richly tinged with warm yellowish brown; the latter is deepest and most common in June and July, when the breeding season is drawing to its close. At this time also the spots and blotches are very abundant, and are more of a reddish brown colour." Possibly the dingier and earlier eggs are those of older birds. The most beautiful variety is of a warm cream colour, with intensely deep brown blotches or spots, and with numerous rather large spots of light purplish grey. The usual size is about two inches in length by one inch and a half in breadth, but I have had one specimen measuring two inches and four lines by one inch and nine lines. The eggs are far superior in flavour to those of the Peewit.

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THE DOTTEREL.

Charadrius morinellus.

Although the Dotterel has long been known as an occasional visitor to Orkney, it was only added to the Shetland list in 1870, in which year, about the middle of June, I observed one, a male, upon the hill of Crushafiel, immediately above Balta Sound. Never having previously seen this species alive, I got a neighbour to come out and shoot it for me.*

It appears to be generally known that the female is the brighter coloured bird of the two.

THE RINGED PLOVER.

Charadrius hiaticula.

SANDY-LOO—SANDY-LAVEROCK.

In no part of the British Islands does the Ringed Plover breed more plentifully than in Shetland; and although it never occurs there in the enormous flocks so attractive to the shore-shooter elsewhere, yet, being dispersed regularly upon every coast, the total number of birds must be very great. It does not seem to migrate; nor does the number undergo any sudden increase or diminution, as in the case of the Golden Plover. In autumn, flocks of moderate size collect, composed of the various families belonging to certain districts, and they keep together more or less until early in spring, when they separate, pair, and breed; yet what becomes of the "surplus population" of the preceding year is no small mystery. For the last eighteen years I have not observed the least alteration in the number of birds in any district with which I am well acquainted. At any time in the winter I might visit some little sandy beach where years ago I saw perhaps a score, perhaps half a hundred

* The author had in the previous autumn met with the painful accident from the effects of which he never rightly recovered, his horse falling with him at a stone wall, causing a most severe compound fracture of the arm.—ED.

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or more, with the certainty of seeing a similar number, neither greater nor less than it was then.

This harmless and familiar species is a universal favourite, even among those who consider no living thing worth notice which cannot either pay their rent or fill their stomachs, for which latter purpose the folk usually prefer some of the fatter and more strongly flavoured cliff birds. Occasionally it is easy to retire within oneself, and in imagination return to some of the old coast scenes. There, for instance, is the low-lying beach; there are the scattered industrious Dunlins and their congeners; there are the startled Heron and the self-tormenting because ever suspicious Curlew,—each taking wing in its own peculiar manner, the one dignified and silent, the other headlong and noisy; there are the Gulls, some reflecting their snow-white hue upon the wet sand, causing them to appear more than double their actual size, or soaring overhead inquisitively, with their occasional impatient cry; there are the crisply curling wavelets plashing up to one's feet—the very recollection of their sound surrounding one with a fragrant marine atmosphere at all times enjoyable, and never more so than upon an early morning at the close of summer; but let the imagination fail to recall the sprightly little "Sandy Laverock," with its conspicuous yet sober plumage, and its clear cheerful note, and the picture, being unfaithful, loses its greatest charm.

Macgillivray well describes its feeding habits (vol. iv. p. 120):—"Their mode of proceeding differs considerably from that of the *Tringa*, with which they often associate. The bird stands, suddenly runs forward, picks up an object, stands again, and thus proceeds, somewhat in the manner of the Thrush. It does not probe the sand or mud with quickly repeated tappings of its bill, as is the habit of the bird just mentioned; but on the edge of the sea, when the tide is rising or retiring, it is in more constant motion than when on an exposed place."

During the breeding season the usual note of the male gives place to a peculiar cry resembling the words from which one of its provincial names is derived—*dulwilly, dulwit—dulwillioo,*

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dullwillioo. These cries are constantly uttered when the bird is flying round a trespasser upon the breeding-grounds, and to these are added some peculiar creaking sounds, which can only be heard at a short distance. Late upon a moonless night, when it has seemed scarcely possible for birds to see to feed, I have got quite close to small flocks feeding at the water's edge, although when yet distant their cry of warning was to be heard. When taken young, the Ringed Plover makes a very interesting pet, soon becoming very tame; it is not a little perplexing to a stranger, on first taking possession of his lodgings, to hear its wild notes proceeding from under the sofa, or from behind the window curtains.

After reading Mr Stevenson's account of this bird ("Birds of Norfolk," vol. ii. p. 95), I sought most carefully for the smaller variety, and though I certainly met with a few individuals of less than ordinary size, and with the forehead somewhat narrower than usual, the outer tail feathers were invariably white, without any spot upon either web. Fineness and length in the claws seems scarcely to be a safe indication of specific difference, the claws of most young waders having that peculiarity before they become abraded by the sand and gravel.

The spring note is sometimes heard as early as the end of January, but the birds do not return to the breeding-grounds before March, when pairing immediately commences. The nest is most often found upon the beach, a little above high-water mark, among sand or gravel; but most of the shores being rocky and precipitous, the sides or even the very tops of the hills are frequently resorted to. So common are the nests in these situations that I have found three, quite accidentally, in the course of a hurried walk of less than two miles over the hills between Balta Sound and Haroldswick, and I have even known of nests in the ploughed fields. The favourite breeding-ground in the neighbourhood of Balta Sound is situated about half a mile inland, at the foot of a range of steep hills, and with a large extent of cultivated land lying between it and the sea. Nests upon the hills are invariably found in the bare

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gravelly patches which so frequently occur among the stunted grass and heather, a preference being shown to the vicinity of water, even though the quantity be barely sufficient to glisten in the sunshine. A perfect nest consists of a saucer-shaped hollow scraped in the ground, lined with small stones, which are sometimes so thickly piled round the sides that the eggs are found standing almost perpendicularly upon their small ends; upon the beach, broken shells are often substituted for or mixed with the stones. Like the Oyster-catcher, the Ringed Plover will frequently make more nests than it requires for use, and three or four may sometimes be found within a few yards of a sitting bird. Occasionally, the presence of a large stone or a root at the bottom of one of these hollows shows sufficient cause for abandonment, but it often happens that these barren nests are carefully lined and finished. The cavity of a perfect nest measures from four inches and a half to five inches across, according to its depth, the deepest being of course also the widest. A few years ago, near the spot above mentioned, about half a dozen pairs occupied a piece of ground of about four hundred yards in length by as many in breadth. One winter, a number of men commenced digging out and removing the numerous scattered stones, leaving the ground much cut up and full of small holes. Upon the return of the breeding season, the little colony, instead of being scared completely away, merely shifted about three hundred yards southwards, a position which it still continues to occupy. In the spring of 1859 I found a solitary nest near Swina Ness, and watched it until the four young birds were hatched, when the nest was deserted for the remainder of the year. The same thing happened the next spring, and even the next to that, after which I never saw the birds near the spot again; thus I became acquainted with two important facts in the history of this species,—first, that it will return annually to the same nest; and secondly, that it is single-brooded, although fresh eggs are to be found from the middle of April to the beginning of July. The sitting bird usually runs from the nest instead of taking wing, but no one seems to have

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clearly made out whether or not it alights at a distance from the nest upon its return, as the Skylark does. I remember, however, accidentally disturbing a Ringed Plover from its nest one snowy morning early in May. The bird, as usual, ran directly away, the footprints thus made being the only ones upon the otherwise undisturbed surface of the snow in the immediate vicinity of the nest, although there were numerous others in all directions a few yards distant. After remaining in a neighbouring cottage for about ten minutes, during which time no other shower had occurred, I returned to the nest, and there found the bird upon the eggs, the return track being visible to the very brink. Notwithstanding the unfavourable state of the weather, the whole four young ones came forth in due time. At a very early stage of incubation, the bird usually runs rapidly away; but as the time of hatching approaches, the usual device of feigning lameness or a broken wing is invariably resorted to, and so helpless does the bird appear that it is difficult to avoid an occasional attempt to throw one's hat over it. No one who witnesses the singular performance for the first time fails to fall into ecstacies of pity and admiration at the perfect manner in which the clever little bird acts its part.

Among the thousands of the eggs of this species which I have seen, comparatively few remarkable varieties have occurred. The most remarkable is of a yellowish colour, with a few large blotches of dark brown, and is so similar in appearance to the lower figure of the quail's egg in the second edition of Mr Hewitson's work on the "Eggs of British Birds," that every one to whom I have shown it has been struck with the resemblance. The only other egg in the nest was of the ordinary form and colour. Sometimes, though rarely, the eggs are much streaked round the large end; I have one in which the streaks measure up to three-quarters of an inch in length. Another, taken from a nest containing three eggs of the usual dimensions, is no longer than that of a common Sparrow; it is perfectly coloured, but measures only ten lines in length by eight in breadth.

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THE SANDERLING.

Calidris arenaria.

This is a regular visitant in autumn and spring, seldom remaining longer than a few days, merely, as it were, pausing to rest on its way. Until lately, I entertained strong hopes that it might be found breeding, having seen it in the north of Unst in June, and even as late as the beginning of July. However, there is nothing in the behaviour of the birds to justify the idea; they appear in small parties, not in pairs, and show no disposition to attach themselves to one particular spot. Certainly, July would appear full time for the commencement of laying, but their breeding haunts, be they ever so far north, are within easy reach of birds of such rapid flight, and it has already been shown that some of our native species, having habits similar to those of the Sanderling, breed fully as late. The last summer specimen that I examined was killed on the 13th of June 1868, when, out of a small party at Balta Sound, I procured a female in full breeding dress, and containing ova as large as No. 3 shot. Birds arriving in August often still retain a considerable amount of rust colour in various parts of the plumage.

More than a dozen seldom appear at one time, yet at Hamna Voe I saw about fifty one autumn evening in 1867.

THE GREY PLOVER.

Squatarola cinerea.

It is quite possible that this species, associating so frequently as it does with the Golden Plover, may be at least as regular a winter visitor to Shetland as it is said to be to Orkney, although even there it is scarce. It was first noticed in Shetland by Thomas Edmondston, who killed a male at Balta Sound on the 20th of December 1844, and duly recorded the fact (Zool.

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1844, p. 552), adding that "it was associated with Turnstones, Ringed Plovers, and various Tringas."

It was not again observed until 1870, when, in the month of July, I met with about a dozen, in company with Golden Plover, on Vallafiel, a hill in Unst. Early in September, a smaller number, probably part of the same flock, appeared in the meadows, which they left for the shore at every fall of the tide. The few that were shot varied considerably in plumage. In one specimen many of the light spots were so strongly tinged with yellow that at first sight it resembled a faded Golden Plover. The stomachs contained small periwinkles and fine gravel. There is no doubt that it is sometimes mistaken for the Golden Plover, but there can be no excuse for this after a glance at Mr Hastings' remarks upon the subject ("Birds of Middlesex," p. 145). He says—"The Golden Plover is the smaller bird, has shorter and more slender legs and bill, and has no hind-toe like the Grey Plover; while the long feathers under the wings in the Golden Plover are *white*, and in the Grey Plover *black*."

THE LAPWING.

Vanellus cristatus.

TIEVES' NICKET.

Not more than forty years ago, the Lapwing was by no means a common species, a few arriving in spring, and remaining to breed here and there, but in such small numbers that the egg was very seldom found. Now, however, the case is nearly reversed. I well remember shooting two in Unst, in the summer of 1854, and being blamed for killing so scarce a bird. Between that time and 1858 a colony of rather large size was founded upon the south side of the voe at Balta Sound, the birds returning regularly about the middle of March. A small number then commenced breeding at Swina Ness, on the north side of the voe, but only remained there for two

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seasons, by which time various new colonies had become established in many parts of the island, and now it is quite a common species throughout Shetland. The eggs not being valued by the people, are seldom taken; therefore good hopes may be entertained that the numbers of this pretty and useful bird will continue to increase. Its habits during the breeding season are well known everywhere, and although its peculiar actions and cries are at first very perplexing, one soon becomes able to interpret their meaning. Even when within a few yards of the nest it is by no means easy to discover it. I have often been amused by the singular alterations which the cry undergoes, according as one gets "hotter" or "colder" in the search. The simple cry, "*Peewit,*" is always the first greeting; then, as the nest is approached, the bird becomes more earnest, and "*Pe-e-wit*" is rapidly uttered, suddenly changing to "*Would you do it? —Peewit, peewit,*" as the prize is neared within what appears to be a very dangerous proximity. Anxious as the bird is for the safety of its eggs, it is still more so for its young; which, however, are very seldom found, so cleverly do they, even at the earliest age, conceal themselves among the heather, or under any small rugged stone or edge of earth which happens to be near; against which, as long as they remain motionless, it is scarcely possible to make them out. The round dark eye often betrays them, and is so conspicuous that the search is far more likely to be successful if one looks for the eyes than if the little downy bodies be sought after. Among the eggs I have met with few very remarkable varieties, although one of a light stone colour, with blackish dots, has sometimes, though seldom, occurred.

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TURNSTONE.

Strepsilas interpres.

STANEPECKER.

The Turnstone arrives regularly in summer, and again in March or April, a few remaining throughout the winter. More than half a dozen are seldom observed together, but upon rare occasions I have seen as many as twenty or thirty. When Turnstones are in company with other species they are not very difficult to approach, but having been once fired at, they will remain shy for weeks afterwards. On being disturbed, they nearly always utter their loud peculiar cry, which, by the way, it is not quite impossible to imitate by unscrewing the tight-fitting lid of an old-fashioned "powder-puff box,"—and they invariably fly seawards, seldom alighting until they have several times passed and repassed the selected spot. When wounded, they swim with the greatest ease, and will even take to the water voluntarily when closely pursued, but I have never yet seen one attempt to dive. It is a matter of surprise that so careful an observer as Macgillivray should have regarded "their alleged stone-turning habits as a fable." I have watched these birds for hours at a time, and besides witnessing the act repeatedly, have afterwards visited the ground, where the displacement of stones and shells, and even the completely reversed position of some, has been quite sufficient to prove the existence of the habit in question. Such traces are of course most readily observed upon a sandy beach where the stones are few and scattered; but, indeed, it is chiefly among sea-weed that this peculiar method of searching for food is employed, the wet appearance of the newly-turned portions of the masses of drifted weed making them evident enough to an observant eye. Although this bird mostly frequents rocky shores, the sands, during stormy weather or immediately afterwards, appear to be very attractive.

Thomas Edmondston, seeing this bird in the north of Shetland at all times of the year, considered it resident; and though

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he never heard of the eggs being found, he seems to have been correct in his supposition. As long ago as 1859 a boy brought me some eggs from Woodwick, among which were two which were so like those of the Turnstone that I always considered them as such, although unwilling to label them, as the finder could give no account whatever either of birds or nests. For years after this I was sadly tantalised by seeing Turnstones about the shores of Unst during the breeding season,—not small flocks, which merely waited until summer was well advanced, but pairs, which lingered about particular localities. It was seldom, however, that the pair were seen together; the male might be feeding upon the beach and the female several hundred yards away upon the rough stony ground. The most likely place of all seemed to be between Skioting and Clugan, and to this spot I directed my attention more particularly. It was a peculiarly wild spot, quite out of the way of the people's track to and from their cottages and boats, and, so far as I could imagine, well suited to the breeding habits of the birds. The ground is rough and quite uncultivated, backed by stony hills, and gradually sloping towards masses of weather-worn rocks, which form a barrier preventing the encroachments of the sea. Where the vegetation gradually ends, the ground is very irregular and stony, tufts and patches of long rank grass apparently offering most suitable nesting-places. On the evening of the 16th of June, observing a female Turnstone behaving very suspiciously, I searched most minutely among the grassy depressions and hollows for more than two hours, and was wandering, almost in despair, upon the gravelly and stony edge which had been washed bare by the winter's spray, when, to my delight, there lay three eggs in a hollow among the stones, slightly sheltered from the north by a flattened fragment which partly overhung them. The hollow, which had evidently been artificially formed, was scantily lined with dry grass, and measured a little less than five inches across. I was rather surprised that the bird displayed no anxiety; possibly she was watching me from some concealed position, and would have

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been bolder had all four eggs been laid and incubation commenced; but at any rate I saw nothing of her for about an hour previously to my discovery of the treasure. Although I had not the smallest doubt that the eggs were Turnstone's—indeed they could have been nothing else—I thought it best to take one egg, intending to return cautiously next evening, and perhaps see the bird leave the nest. However, early in the morning a man came with the very two eggs to claim the reward I had offered, and although he seemed much aggrieved by the charge, I am quite sure the rascal had been watching me. Two of the eggs were a good deal like the figure in Mr Hewitson's work, but the ground colour of the third was of a brighter green; all were blotched with amber brown, reddish brown, and purplish grey, the markings of the latter colour being smallest. The average length was one inch and six lines, the breadth one inch two lines.

I have no doubt that if some of the smaller islands were carefully and patiently explored, other nests would be found. Shetlanders as a rule care little for such minute work. They have no objections to visit a colony of Terns or Gulls, and bring home a good-sized handkerchieful of eggs; but to potter about for hours after "twa-three peerie bits o' tings" like Turnstone's eggs, is more than they have patience to attempt.

THE OYSTER-CATCHER.

Hæmatopus ostralegus.

SHELDER.

Although a constant resident in Orkney, the Oyster-catcher is but a summer visitor to Shetland, arriving about the middle of March, and taking its departure at the end of September. I have only seen it twice in winter. Why it should leave us in autumn seems quite unaccountable; a difference in food or climate naturally suggests itself, but the extreme south of one group of islands being but fifty miles from the extreme north

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of the other, the question of climate can scarcely hold good; and, as to food, I have caused Oyster-catchers to be killed in Orkney, and notes taken of the contents of the stomachs during winter, and could never hear of their having fed upon anything which might not have been procured in abundance in any part of Shetland at that same season. It is likely that our birds migrate to some more distant parts, for, according to Messrs Baikie and Heddle, the number in Orkney is less in winter than in summer. In spring I have observed them in the very act of arriving, I think always from a southerly direction, and they have always appeared to be much fatigued. They generally arrive soon after mid-day,—not in large flocks, but in small parties of half-a-dozen, or even less, keeping rather low, and making straight for their old haunts, where, if not much disturbed, they remain in a state of comparative inactivity for a day or two, displaying but little of their customary eagerness in their search for food, and often permitting a very near approach.

In a locality so favourably situated for the purpose as Unst, it is easy to form an idea of the number of birds so conspicuous which visit it annually. No matter whether they have been molested or not during the previous season, the number returning is almost exactly the same every year. For many years I have observed a flock at the point of Swina Ness, numbering about eighteen, sometimes a little less, but never more.

In Shetland, where it is not much interfered with, the Oyster-catcher is not very difficult to get near; but after a few shots have been fired, the birds usually become wild for the rest of the season. The absence of extensive muddy or sandy flats prevents the formation of those large flocks so often seen in the south, and I have never observed gatherings of more than about twenty individuals before the autumn migration. It is well known that the Oyster-catcher when wounded will take to the water and swim well, sometimes even attempting to save itself by diving; but I have also seen one of a small party on a rock surrounded by the sea deliberately jump off and swim about, carefully examining those parts which it could not other-

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wise have reached. The cry is very peculiar, and, once heard, can never be forgotten. It is uttered both upon the wing and at rest, and is whimsically compared by the people to a shrill exclamation of "*My feet! my feet!*" This is usually the cry of alarm, but the single note "*Hic-hic*" signifies suspicion, or warning to a companion. However agreeable these cries may be at other times, they grate most unpleasantly upon the ear of the gunner; often when he has toiled patiently to approach, unperceived, a fine seal, for example, or a big sea-otter, his perseverance is rewarded by its instantaneous disappearance beneath the waves, as the Oyster-catcher dashes overhead, shrieking forth his discovery of the whereabouts of the common enemy—a service too often followed by a mingled explosion of strong language and gunpowder, and the concluding spectacle of a confused mass of pied plumage and vermillion bill lying among the dark weedy rocks at the water's edge. In these islands its food mainly consists of limpets and mussels, together with many species of small univalves, which may be obtained in almost all states of the tide; but, so far as I can ascertain, it never feeds upon the oyster, even in those situations where the latter abounds. It is not easy to imagine how the limpets are procured, although it is possible that experience may have taught the bird to strike them from the rock suddenly and without previously alarming them, and it is not at all unlikely that they are picked up while feeding in shallow water before they have time to retreat within the shell. By way of experiment, I have easily detached limpets from the rocks by means of the bill of a recently-killed Oyster-catcher, but this can only be done by a sudden blow, otherwise the shell will be closed down so firmly as to defy all further effort. The common song thrush, as is well known, often betrays its feeding-place by allowing the shells of snails upon which it feeds to accumulate in one particular spot, and the Oyster-catcher has the same habit. When a limpet is captured it is not always devoured immediately, but is often carried to a suitable place, such as a flat rock or a grassy ledge, where the operation of *unshelling* it is

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easier than it would be upon the slippery sea-weed. These collections of shells may often be met with some hundreds of yards inland. Those birds which I sometimes see in confinement always place the limpet with the shell downwards, and then, running the bill round the inner margin with a peculiar tremulous motion, detach the animal as rapidly as I could with a knife, and far more neatly. I have never seen them use the foot to assist the operation.

The usual laying-time is about the end of May, although eggs are sometimes found as early as the beginning of that month, but never later than the middle of July. As the breeding season approaches, pairs of birds may be seen some distance inland, flying high, and constantly uttering their loud peculiar cries. The nest much resembles that of the Ringed Plover, only of course it is larger, and it is found in the same situations, even on gravelly patches some little distance from the sea; the male, too, having a similar fancy for constructing numerous others while his mate is sitting. They both watch it most jealously, and will fly screaming overhead even before it contains eggs. Whether situated upon the gravelly soil or upon the bare rock, either on the shore or on the ledge of a cliff, where I have occasionally found it, the nest is always composed of flat stones or pieces of shells. Sometimes, however, the site selected is a grassy spot near the sea, and then the cavity is lined with dry grass. Writers are given to dilate upon the wonderful instinct which prompts the Ringed Plover and other birds of similar habits to cover the bottom of the nest with pebbles, shells, or herbage, according to the situation in which it is placed; unfortunately for the credit of Oyster-catcher, it gathers withered dry grass only, which forms as great a contrast with the surrounding bright green turf as if shells or pebbles had been chosen instead. I have never seen more than three eggs in a nest, and have only met with one very striking variety, having the ground colour pale greyish green. The spots upon most eggs of this species are usually somewhat small, but now and then a largely blotched and singularly streaked specimen will occur.

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Attempts to keep the birds as pets are seldom made, but they are readily domesticated. A few years ago, returning in a boat from an egg-seeking excursion, I was surprised to hear a sound exactly resembling the cry of an Oyster-catcher, but much weaker, proceeding from the handkerchief in which some eggs were tied, and, on examination, found a very handsome egg of an Oyster-catcher just chipped by the young bird. I kept it warm in my hands, and on reaching home, placed it in wool before the fire. It liberated itself in a few hours, and immediately began running about the kitchen floor, soon afterwards picking up bread soaked in milk, and the yolk of hard-boiled egg. A neighbour to whom I gave it soon "lost fancy" for it, and the poor little thing was starved to death.

These birds are extremely fond of earthworms, and very soon learn to pick them up before the spade.

II. *GRUIDÆ.*

THE CRANE.

Grus cinerea.

The islands of Orkney and Shetland seem to be particularly favoured by this now scarce bird. The first mention of its occurrence in Shetland is by Dr Fleming, who says—"A small flock appeared during harvest in 1807, in Tingwall, Zetland, as I was informed by the Rev. John Turnbull, the worthy minister of the parish, who added that they fed on grain." The last-mentioned fact is important. According to Mr Dunn, one was killed in Shetland between the years 1831 and 1833; and Mr Wolley gives an account of one seen in 1848. Two other instances have occurred within my own knowledge.

One evening about the middle of June 1864, four large birds, uttering loud cries, which were described as resembling those of the wild swan, were observed flying across Balta Sound in a southerly direction, and, slowly descending, they became lost

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to view against the hills. Some days afterwards, a large bird, said to be one of the four, was shot at Haroldswick, in a meadow near the sea, and brought to Buness, where it was identified as a specimen of the Crane, and soon afterwards the skin was sent to Edinburgh to be stuffed. No red colour was observed upon the top of the head, but as that fades soon after death, it might easily have been overlooked. On my return to Shetland early in July, I was informed that one of these birds was supposed to be still remaining in the island; but nothing further was ascertained until the 12th, when it was observed near the Loch of Cliff, sometimes upon the wing, but more frequently walking about in the corn-fields. The last time it was seen that day, it was standing in the little holm, far out of shot from the shore. Next day diligent search for it was made, without the smallest success; but a man who lives near the deserted village of Cliff assured us that the bird had of late been almost constantly seen in that neighbourhood, and his description convinced me that it was not a Heron,—a bird which here, as elsewhere, is often called the Crane. He said that it was at least as high as a pony, and that it never went very near the water, but preferred the meadows and fields of young corn, in which it walked about with slow steps, now and then "picking at the ground, for all the world like a hen." On the 17th, as I was crossing the hills above Cliff, the man ran to me in great haste, with the news that the Crane had just gone down near the loch, upon the steep slope which faces the north. To make quite sure as to the species, I crept among the long grass to the top of the hill, and peeped over; but, as the sun dazzled me, the bird rose before I was aware of its presence. It got up with a low guttural cry, sailed off with outstretched neck towards the loch, then turned, facing the wind, and soon afterwards alighted upon the same slope, some three hundred yards distant from where it had just risen. As it flew, the ends of the quills could be seen widely separated, giving the wings a peculiar fringed-like appearance. Very carefully withdrawing from sight, I hastened to Balta Sound, about a couple of miles

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distant, for a gun; but, as is usual in such cases, a party of visitors had called during my absence, and carried off both guns and ammunition. More than an hour was spent in searching for another gun, but at last I succeeded in procuring a tremendously heavy old single-barrel, a little loose powder, and some rabbit-shot; and thus provided I hurried back.

On my arrival, the bird was nowhere to be seen; and I was about to leave, when it came sailing back in a sneaking sort of way, under shelter of the hill, and went down near the old spot. I got nearer without being observed, and was just wondering how to proceed next, the last sheltering patch of weeds having been reached, and the bird still far distant, when the latter, which until now had been walking slowly about with neck retracted and shoulders humped,—exactly in the position chosen by Yarrell for his figure of the Heron,—suddenly stretched its neck to the full extent, ran several steps, and then took wing, uttering the same peculiar croaking sound as before. I fired instantly, but seeing that no serious effect was produced, threw myself flat among the long grass, and the Crane, changing its course, flew directly over me, so close that I could distinctly see its eye. Then, while I was reloading, it took a long flight, circling about in various directions, sometimes sweeping close to the ground, as if about to alight, and then rising so high in the air as to be almost out of sight. At length it settled upon the opposite side of the loch, whither I followed it, and was nearly within shot when a sheep-dog caught sight of it and drove it up. Then for upwards of three hours I continued the pursuit, the bird keeping an exceedingly sharp look-out, sometimes alighting in corn-fields or moist places, occasionally walking about and feeding, but always flying off for half a mile or more as I approached. Then I lost sight of it for nearly an hour, and was far on my way home, when I caught a momentary glimpse of its wings as it went down near the old place. It remained there for a few minutes, and then went off to a field surrounded by a rough wall two feet high, where it remained feeding so contentedly that I made sure of success at last.

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Crawling among the stones and long grass, I managed to gain a cross wall, which would have exactly answered my purpose, but at the very moment when I was passing the only gap, the bird, raising its long neck, caught sight of me, and was off in an instant. Having watched it fairly out of sight, I went home greatly disappointed.

Next morning, being provided with my own gun, I went again in pursuit, this time accompanied by my brother-in-law. Two riders were seen making for the very spot where we expected to find the bird; but after a smart race, we intercepted them just in time, and, almost breathless with anxiety and haste, we peeped over the brow of the hill, very cautiously indeed, for the extreme wariness of the bird was by this time well known; then we rose to our knees, next to our feet, but not a feather was to be seen. We were about to descend the hill, and had already proceeded some steps, when, catching sight of the bird on a level place at the foot of a hill, and about three hundred yards distant from us, we immediately dropped behind a friendly hillock, and, making a wide sweep inland, got round to the top of the hill, as nearly as possible above the desired spot. Reckoning that the Crane would be far out of shot from the nearest concealment, we agreed that our only chance was to creep along the ground as far as possible, and then run in at once. This we did, and as the bird got up we ventured a very long shot with BB as it flew towards the loch. On receiving the shot, it sailed steadily for a few seconds, and then dropping upon its feet in shallow water, ran for the land so rapidly that we could scarcely overtake it, and even then the furious thrusts which it delivered with its bill rendered its despatch a matter of no small difficulty. It was only now that we became aware that we both had fired, the two shots having occurred so precisely at the same moment that only one report was perceptible. In consequence of the great size of the bird, neither of us could carry it alone without injuring it as a specimen; therefore we bound it lengthwise with our handkerchiefs to the longest gun, and thus brought it home in triumph.

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During the pursuit on the previous day, I noticed that the bird never rose without first running several steps, and that as soon as it became aware of danger it never failed to utter the peculiar guttural cry already mentioned. It rarely circled immediately before alighting, but with outstretched motionless wings sailed gradually closer to the ground, and dropped rather suddenly. Then it would pause to tuck its large wings comfortably away, very soon afterwards beginning to walk about slowly in the position already described, occasionally stopping to raise its head and look around, or to pick up something from among the grass. On taking wing, and generally when descending previously to alighting, it stretched out the neck in a line with the body; but when rising in full flight, it kept the neck retracted and the head withdrawn to the shoulders. When it was high in the air, and seemed bent upon a long flight, the wings were flapped slowly, but at regular intervals, rather longer than I have observed in the Heron; at other times the wings were usually kept fully expanded, and only moved occasionally. The flight, though apparently heavy, was nevertheless very rapid, and, as far as I could observe, the bird preferred rising head to wind; indeed, even upon the ground it nearly always exactly faced the quarter from which the wind was blowing.

On skinning the specimen, it was evident that the contents of both barrels had been well directed—one wing was severely injured, and other wounds were numerous; but I was surprised to find several shot lying loose beneath the skin of the back. Although the bird was evidently immature, the tendons of the wings and legs were exceedingly strong, and in some situations even partly ossified. The stomach, which was large and very muscular, was filled with large black slugs and pieces of stone (principally quartz), some of them of considerable size, measuring about half an inch square. Most of the feathers composing the under wing coverts presented a very peculiar appearance, large patches upon them being covered with what I take to be the ova of some kind of parasite. The nature of the food pro-

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bably accounts for the bird's preference for the north or shady side of the hills.

Unlike the Herons, the Crane has a small neck; consequently it is necessary to slit the skin in order to clean the skull.

I append a description, not being able to find a similar one elsewhere :—

Length from middle claw to tip of bill,	4	feet 8	inches.
Length from tail to tip of bill,	3	,, 8	,,
Expanse of wings,	6	,, 7	,,
Wings, from carpal joint to tip,	1	,, 9	,,
Bill, from front to tip,	0	,, 8½	,,
Bill to gape,	0	,, 4¼	,,
Tarsus,	0	,, 9	,,
Middle toe and its claw,	0	,, 8½	,,

Sex, male.

Bill, horn-colour, tinged with green, slightly darker along the ridge, and palest at the tip. (After drying, the whoel bill becomes dark reddish brown.)

Iris, rich golden yellow, gradually becoming darker towards the pupil.

Head and Neck.—Crown and fore part of the head, dull crimson, with scanty bristle-like feathers of very dark bluish grey; feathers upon the lore similar in appearance, but closely set; from the eye to the occiput an elongated patch of dirty white, the feathers of the occiput itself somewhat lengthened and pointed, dusky bluish grey, with their concealed portion dirty white; chin, throat, and upper two-thirds of front of neck dull lead-grey, the shafts of most of the feathers slightly darker; back of neck rather paler than the front, and very obscurely mottled with light brown; upon the sides of the neck the colours are still paler; lower third of front of neck greyish brown, the shaft lines of the feathers considerably darker.

Upper Surface of Body.—Upper scapulars and upper half of back dull lead-grey, each feather with a darker shaft and brownish tip; lower scapulars similar in colour, but darker, especially towards the tips; lower half of the back with less brown than the upper half; upper tail coverts very dark bluish grey at the tips, their concealed portion brownish grey.

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Tail.—Shafts of the feathers white, except at the tips; in other respects these feathers resemble the upper coverts, but the dark colour, occupying less space, causes a lighter irregular transverse band.

Wings.—Third quill slightly longer than the second, and longest in the wing. Lesser coverts lead-gray, tinged in some parts with pale brown, the shaft lines nearly black; greater coverts of a browner hue, much elongated, and with the webs disconnected, the concealed portions of the inner ones brownish black; alulæ and primaries black, the latter brownish at the tips; secondaries and tertials black, with white shafts, and paler at the base, the innermost of the tertials brownish towards the tips. In the closed wing the tertials are longer than the primaries, and the last feathers of the tertiary coverts are longer than the tertials themselves. The long drooping "plumes" are formed by the greater coverts alone, especially by those nearest the body, and not by the tertials.*

Under Surface of the Body indistinctly mottled with pale brownish grey and pale lead-grey, the shafts darker; at the upper part of the breast a few dirty white feathers are intermixed.

Feet, tarsi, and bare part of the tibia brownish black, tinged with olive; the under surface of the feet paler; claws black.

Again, on the 11th of May 1869, I heard that two Cranes were in the island, but my endeavours to obtain even a sight of one were unavailing until the evening of the 27th, when one of them was brought to me by a boy, who said that he had killed it near Uyea Sound. He stated that, seeing some people chasing it over the moors, he joined in the pursuit, and, being a swift runner, pressed it so closely that it turned and attacked him, upon which he threw two large stones, the second of which struck it upon the head and killed it; he then discovered that the wing had been broken, probably by a shot. Several men and boys have since told me that they saw

* This latter remark is no doubt in reference to the statement in Yarrell, that the plumes of the Crane are the tertial feathers.—Ed.

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the bird running over the moors, but were unable to overtake it.

Sex, male.

Bill, light green horn-colour, slightly darker about the middle of both mandibles; base of upper and a large portion of base of under mandibles brownish pink.

Iris, brownish orange, darker towards the pupil.

Feet, tarsi, and bare parts of tibia black, tinged with olive green; the under surface or the feet paler; claws black.

Bare parts about the forehead and eyes, dull pale crimson.

The plumage is very similar to that of the last specimen, but less clouded with brown. In this individual also large patches on the feathers beneath the wings are covered with the ova of parasites.

Although this specimen was slightly larger than the first, I believe it was a younger bird.

On my mentioning the capture of the Crane to those Shetlanders who have heard of such a bird, they at once assert that they have often both seen and shot it, but it has always proved in the end that, like many others, they have confounded it with the Heron.

III. *ARDEIDÆ*.

THE HERON.

Ardea cinerea.

HAIGRIE.

In Thomas Edmonston's catalogue the Heron is mentioned as "resident, and not rare." This may have been a correct statement thirty years ago, but at the present time it would be better to say that the species is numerous from autumn to spring, very rarely remaining to breed. It leaves us much sooner in spring than any other winter visitor, being, as is well known, a very early breeder. Flocks, sometimes numbering as many

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as twenty or thirty individuals, are often met with near the sea; sandy bays being preferred, especially such as are sheltered from the wind. Low tides frequently tempt these birds to seek their food among the rocks, though the slipperiness of the latter seems to render their footing somewhat insecure. It is amusing to see a Heron, in running over such rocks, suddenly fall flat upon its side, a mishap that I have witnessed more than once, but without on any occasion seeing the bird make the slightest exertion to save itself by means of its wings. In every specimen which has fallen into my hands, the claws, and especially the hind ones, have always been much worn and blunted, as though they had been ground down upon a coarse stone; in some the claws are reduced to mere stumps.

For several years past, seven Herons have regularly appeared in the little island of Hunie about the end of July, remaining there until the following spring. They are nearly always to be found together among the high rocks, to which they resort partly for shelter, but mainly, I suppose, for the purpose of feeding among the shallow pools left by the falling tide. When disturbed they rise high, and fly off to a considerable distance, and will then perhaps remain in some undisturbed spot for the remainder of the day, but they invariably return to the rocks in Hunie as night approaches. That Herons, finding one particular locality peculiarly suited to their habits, should therefore take up their abode there during a certain portion of the year, is not very remarkable; but the annual appearance of the exact number of seven compels us to the conclusion that a pair go regularly southward to breed, and return at the close of each season, with five young ones, to the spot which they have proved to be secure from danger and abounding with food.

Notwithstanding the wariness of the Heron, I have often surprised it while standing beneath a low cliff. A friend of mine also, hurrying home over the heath one night, jumped over a low turf wall into a flock of about a dozen, to his own utter dismay as well as to theirs.

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It is said to be easily tamed, but upon this subject I can say very little, having made but one attempt. On the 20th of July 1865 a living Heron was brought to me by a man whose dog had caught it upon some marshy ground by the Loch of Cliff. It was evidently a young bird of the year, and was well grown and fully fledged, though a considerable quantity of down was yet remaining among the plumage, particularly about the top of the head, where there were also some long slender filaments, very much resembling shreds of tow. Thinking that the bird would soon recover from the slight injury inflicted by the dog's teeth, I turned it into some fields where there were several large pools and a few streams, all well stocked with trout; but here it was very soon caught by some boys, who, after keeping it for days without being able to make it take food, sold it to a friend of mine, and he immediately sent it as a present to me. Having turned it loose in the garden, I placed near it a pan of water containing fish of several kinds, but next morning they remained untouched, and the bird appeared to be dying. I then placed a small trout between its mandibles, and it was instantly swallowed with eagerness; next day the process was repeated, and afterwards I continued the supply regularly, but in larger quantity. The bird very soon grew strong, and in a few weeks would come running towards me when I called, sometimes greeting my appearance with cries resembling those of an adult, though not so loud. She rapidly became exceedingly tame, never attempting to leave the garden, and allowing me to carry her about and handle her as I pleased. No preference was shown for any particular kind of food; trout, pollacks, flounders, small birds, slugs, earthworms, and even bread were swallowed with equal satisfaction, but up to the very last day of her short existence, she could never be prevailed upon to take food of her own accord, even after long abstinence. When fish were thrown into the water, the bird lowered its bill so as almost to touch the surface, and would there remain perfectly motionless for many minutes, as though fascinated. Even after health and strength were fully regained, it displayed but little

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activity, except during the night, when it would occasionally wander as far as the garden walls would permit, but why it never made use of its wings to pass the barrier I am unable to imagine.

For the first few days it remained in one spot, sleeping with the bill and the fore part of the head concealed beneath the angle of the wing. On the sixth day I missed it, and after some trouble found it sitting upon a branch about two feet from the ground, in the midst of a thick bush, and ever afterwards it showed a decided preference for like situations. In feeding it, I inserted the fish between the tips of the mandibles,—a very short distance was sufficient,—then, on my withdrawing my hands, the bill was pointed towards the ground, and by a series of jerking movements the fish was rapidly brought as far as the throat, when both neck and bill were pointed upwards, and the jerking continued until the tail of the fish disappeared; then the neck was gradually retracted, and all voluntary efforts to swallow ceased. The lower mandible was capable of considerable dilatation of the base, so that a morsel of food four inches in diameter could be swallowed without much difficulty. During the whole process, and especially when it was much prolonged, saliva flowed abundantly, but nevertheless it was always necessary for me to dip the food in water before offering it. Fish were never swallowed otherwise than head foremost. I never saw them tossed in the air and caught again, in the manner described by some authors; but with the bill pointed towards the ground, they were shaken about, suffered to fall for a short distance, and quickly grasped again, until, by frequent repetition of the process, they were brought into the desired position. The grasp of the bill was exceedingly powerful. Once, in my haste, I clumsily inserted a finger instead of a fish, and thus, as the bird quickly drew back its head, the finely serrated edges of the upper half of the bill inflicted two deep cuts as clearly as if they had been made with a knife. After the food had been swallowed, the tongue was often rapidly protruded and slowly withdrawn. In stuffed specimens of the

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Heron, the wires which support the legs are usually so placed that the so-called knees are widely apart; in this individual, however, those parts were so close together as sometimes to meet, thus causing a very unpleasing "knock-kneed" appearance. Another mistake upon the part of the bird-stuffer is to place the eyes quite flat in the head; on looking from above upon the head of a living bird, it will be seen that they project considerably posteriorly, so as to look forwards.

Almost every one who has seen a recently-killed Heron, must have observed upon the bill and legs a peculiar bluish powder, resembling the "bloom" upon a plum. Not long ago I read somewhere that this was a luminous substance secreted for the purpose of attracting fish at night! Delighted with the idea, I at first hung up dead Herons in dark cupboards, but, unfortunately for the above ingenious theory, the cupboards remained as dark as before; and even when, thinking that this was in consequence of the birds being dead, I visited my short-lived captive under the trees one dark night, so far from beholding "a faint glimmering as of subdued moonbeams," so eloquently described by the author alluded to, I with difficulty made out a shapeless black lump. The powder is not found upon the bill and legs alone; the whole plumage is filled with it, so that it comes off upon one's clothes; and when the bird falls into calm water, a large quantity of bluish dust immediately spreads around upon the surface. I often rubbed it from the legs and bill, and those parts remained free from it as long as they were kept from contact with the plumage. As to the pectinated middle claw I can say but little. That claw alone was used in scratching the head and neck, a process which was repeated very frequently; but again, unfortunately for theory, it must be observed that barn-door fowls have precisely the same habit. Possibly these notes contain nothing new, but I have nothing better to offer, the poor Heron having wandered one dark night into the garden well, from which the stepping board had been thoughtlessly removed by a servant. Unhappily for my purposes of gaining some information as to the changes of plumage and the times

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of their occurrence, the bird had only been with me two months when it came to this untimely end.

Although the Heron scarcely ever remains over the spring, I once obtained eggs taken from a nest on some rocks at Whiteness, on the Mainland, the man who took them having no idea what they were.

THE BITTERN.

Botaurus stellaris.

Even when the Bittern was a common and widely-distributed species in other parts of the country, Shetland probably offered it but few attractions, destitute as it was, and still is, of those wide marshy tracts in which the bird delights. Thomas Edmondston saw one in Unst in the spring of 1843, and another was observed in the same island by myself in March 1871. Others are reported, but upon such slender authority as to merit a mere passing allusion.

According to Messrs Baikie and Heddle, it is equally rare in Orkney.

THE WHITE STORK.

Ciconia alba.

Writing in 1843, Thomas Edmondston records that "one was shot a few years ago." Another Shetland example is mentioned by Macgillivray; but beyond these none seem to have occurred unless, indeed, the two spoken of by Mr Yarrell be other than these.

THE SPOONBILL.

Platalea leucorodia.

This species has several times been seen and killed in Shetland. On the 12th of April 1871, while lying at anchor in

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Mid-Yell Voe, I saw two fly across the bows of the vessel. Finding it very breezy outside, they returned, and alighted in shallow water under the lee of the cliffs, where I watched them through a telescope for more than half an hour. They generally kept together, and waded pretty deep, keeping the broad part of the bill submerged, and moving it steadily from side to side as they advanced. I did not observe them swallow anything.

It is a rare visitor to Orkney; nevertheless, Mr Gray says ("Birds of West of Scotland," p. 286) that no less than ten were seen flying across the Bay of Kirkwall, six of which were killed!

THE GLOSSY IBIS.

Ibis falcinellus.

About the end of October 1862, immediately after a south-westerly gale, a man living at Stove, in Unst, shot a Glossy Ibis in his corn-yard. The skin was preserved, but neither the sex nor the contents of the stomach were noted. The bird appeared to be much exhausted, and would scarcely take wing when disturbed. The skin was not dry when I took down the following measurements and general description:—

Length,	23	inches.
Wing, from flexure to tip,	11½	,,
Bill, from front to tip,	5	,,
Tarsus,	4⅛	,,
Middle toe and its claw,	3¼	,,

Bill, dark brown, tinged with green, paler at the base, where it is of the same colour as the naked skin upon the lore—pale olive-green.

Iris, said to have been dark brown.

Head, Neck, and Upper Surface.—Head and neck rusty brown; on front of upper part of neck, and on the top of the head, some dingy white marks; in the situation last named there are also some indistinct brownish spots. Upper part of back rather darker than neck, and indistinctly bronzed. Scapulars, upper

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tail coverts, and lower half of back, deep glossy green, changing to purple in certain directions of the light.

Tail coloured in the same manner as the scapulars.

Wings.—Both sets of coverts and the whole of the quills deep glossy green, with purple and bronze reflections.

Under Surface.—From lower part of neck to tail dark brown, slightly glossed with green, bronze, and purple, especially on the sides.

Tarsi, feet, and bare part of tibiæ, olive-green; claws brownish olive-green.

Although the specimen is nearly equal in size to an adult, the markings on the head and front of the neck indicate youth; the adult is redder beneath, and has the general plumage more glossed.

IV. *SCOLOPACIDÆ.*

THE CURLEW.

Numenius arquata.

WHAUP—STOCK WHAUP.

This well-known species is very frequent upon every coast, being met with singly or in small flocks, the latter seldom exceeding thirty individuals. Very frequently in winter, couples, perhaps pairs—for the two are usually of opposite sexes—are to be seen constantly occupying one particular part of the shore, keeping quite to themselves for weeks at a time, and showing no desire to join others of their kind in the neighbourhood. These are always old birds. About the middle or end of April the flocks break up and pair, retiring immediately to the moors, where for some days they may be seen flying very high, uttering their far-resounding cries, and, like certain other bipeds who at such times indulge in flights of fancy, seeming to care very little for food. Laying generally begins about the middle of May; but I have taken eggs as early as the 2d of

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that month, and as late as the end of June. During the period of incubation the male is constantly on the alert, usually taking his stand upon some commanding eminence, from whence, concealed by the grass or heather, he can observe the approach of an enemy long before he himself can be seen; then with loud cries he springs up; he is joined by others—for more than one pair is commonly found upon the moor—and the noisy birds soar screaming overhead in every direction. Sometimes the female takes alarm with the rest, but this, so far as I have observed, is when she has been sitting for a few days only; and hence it is that when she is found upon the eggs they are nearly always in a somewhat advanced stage of incubation. The nest is generally more or less well lined with grass, sometimes with a little moss in addition. Much care does not appear to be bestowed upon its concealment, but I have upon occasion seen it very snugly placed in a large tuft of tall grass. As in the case of the Oyster-catcher, different statements are made by authors as to the number of eggs laid by the Curlew, some maintaining it to be three, others four. Mr Gray, however, throws an unexpected light upon the matter, thus—"From Mr Harvie Brown's journals I learn that in Sutherlandshire, where the Curlew is local, though common in the districts it frequents, four eggs are almost invariably found in the nest, three being the usual number taken in nests throughout the midland and southern counties."* In Shetland four is by far the more usual number, a nest with no more than three eggs being merely found now and then.

The eggs of the same nest mostly resemble one another in colour and shape, but very singular varieties will sometimes occur. I have some which are even longer than the specimen figured by Mr Hewitson, others no longer than Whimbrel's, from which, however, their greater breadth always distinguishes them. One taken in Yell has the blotches unusually large, and deviates so far from the usual, almost invariable, pyriform shape, that its outline nearly resembles that of an egg of the

* Birds of West of Scotland, p. 288.

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Herring Gull. Another from the same place is of a very peculiar grayish-brown colour, nearly as dark as a Red-throated Diver's egg, and obscurely spotted with two darker shades of the same tint. The young are difficult to find, and nearly as difficult to overtake, even when only a few hours old.

The Shetlanders regard with horror the very idea of using so uncanny a bird as food; indeed, I am acquainted with a visitor who, having made the bold attempt, was for some time afterwards frequently alluded to almost in a whisper as "the man that ate the Whaup." As for the "uncanny" associations attaching to the Whaup, he would be at no loss to understand them who had chanced to be the companion of some of my lonely night walks across the hills in summer, when these birds and the Whimbrels have come dashing over my head, uttering their loud cries,—wild enough at any time, but sounding almost unearthly when mingled with the yelping of the Common Gull and the mysterious drumming and clicking of the Snipe upon the desolate peat moors at midnight.

THE WHIMBREL.

Numenius phæopus.

TANG WHAUP—PEERIE* WHAUP.

Though less frequent than the Curlew, the Whimbrel is nevertheless well known, and in spring it is sometimes even abundant. Small flocks of from four or five up to about twenty birds arrive with great regularity in the middle of April, and are then so tame that they may be walked up to boldly by any one who cares to shoot them. At this time they frequent the grassy slopes and meadows near the shore, but prefer to feed among the rocks at low water, whence they derive their local name; the word *tang* being applied by the Shetlanders to most of the larger seaweeds. After a few days

* The Shetland word "peerie" corresponds in every respect with the English *tiny*, and the Scotch *wee*.

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they retire to their breeding grounds, which they leave towards the middle of September. At that time they are not usually seen in flocks, neither do they resort much to the shores and low grounds; seeming merely to straggle away, a family at a time. One or two birds may then often be observed flying very high and noisily, perhaps having become separated from their party.

The Whimbrel breeds freely in Shetland, and is still nearly as abundant in Yell and Hascosea* as at the time of Mr Hewitson's visit many years ago. The nest is placed among grass and heather, and is composed of either of those materials indifferently; the situation being nearly always so chosen that the sitting bird can easily command a clear view all round for the extent of several hundred yards. A great many eggs of this species have been brought to me, but I have not very often seen them *in situ;* the number appears to be almost invariably four.

Mr Hewitson thus points out the difference between this egg and that of Richardson's Skua, with which it is often confounded:—"The eggs of the Whimbrel may be usually known by their greater breadth; by the form of the larger end, which is a complete semicircle; by the straightness of the line between their greatest circumference and the narrow end, and by the character and colouring of the spots, which are easily detected by a practised eye, but very difficult to describe." As far as colouring alone is concerned, the first glance generally settles the question, careful and close examination merely serving to increase the difficulty. The peculiarly delicate transparent green of the Whimbrel's egg is seldom, if ever, found in the egg of any of the Skuas.

During the breeding season the behaviour of the Whimbrel

* A small island on the coast of Yell, famous in old local tradition for the virtue of its soil as a specific against vermin! I suspect it would not be very difficult even now to find a boat or two in which a "kedgie of Hascosea earth" has been carried across the Sound, in aid of some thrifty housewife in whose stores the mice were troublesome.—Ed.

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is very similiar to that of the Curlew. I am inclined to think it is usually somewhat later in nesting.

THE REDSHANK.

Totanus calidris.

The Redshank is by no means uncommon between the latter part of summer and the early spring. It has been said to be numerous in the breeding season, but I have not found it so; nor, indeed, can I meet with any one who has seen more than an occasional pair at that time. Very few eggs have come into my hands, and these were found by myself at long intervals. Whether eggs be discovered or not, the clamour of the birds is quite sufficient evidence that the nest is near. I have usually found it in the long grass of low moist meadows, and once came upon it in the midst of a patch of nettles among the ruins of a cottage, but the site of it was never far from fresh water. The nest was always very slight, commonly consisting of a little dry grass, though in one instance it was of small pieces of dry seaweed which had been left within easy reach by some unusually high tide in winter. I have not seen eggs earlier than the 13th of May.

In Shetland, Redshanks are much more frequently met with among rocks than on the open shore; therefore, as a rule, they are not difficult to shoot, concealment being easy, and the noise of the waves preventing footsteps from being heard.

Ornithological writers seldom notice the fact that the legs and feet and the basal half of the lower mandible, bright red in summer, become orange red in winter. Macgillivray mentions that the young are said to have the back of the neck without feathers, as in the Bittern. I have never seen the young bird, but with the skin of the old one I have always experienced a considerable amount of difficulty in restoring the feathers of the back of the neck to their original position.

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THE COMMON SANDPIPER.

Totanus hypoleucos.

It was not until the year 1869 that I was able to procure for identification so much as a single specimen of this bird, when, on the 2d of July, Robert Mouat not only shot a pair at the Loch of Cliff, but had a chase after the young as they ran among the long grass. This is the only direct evidence of its breeding in Shetland; though that it does so regularly is pretty certain, for during the summer months the bird is often heard and sometimes seen. Messrs Baikie and Heddle consider it merely an occasional visitor to Orkney. Thomas Edmondston's singular mistake of recording this species as a winter visitor to Shetland was afterwards corrected by himself.

Somewhat later in the above-named year, I myself shot one from a small party, perhaps a family. It fell, winged, into the water, and remained swimming leisurely about while I pushed off the boat and rowed up; but the bird dived the moment I attempted to seize it, and although I kept a strict look-out all round upon the dead-calm surface of the water it never reappeared. Another singular fact in connection with the habits of this bird is its, at any rate occasional, terror at thunder. I remember as a boy, in the autumn of 1850, trying for several days to get near some Common Sandpipers which had appeared upon the rocky shore near Dunnose, in the Isle of Wight, but so wild were they that not even a long shot could be obtained. One afternoon while I was endeavouring to stalk them, a heavy thunderstorm came on, and during one remarkably heavy peal I observed the birds fluttering to the shelter of the rocks; running up, I found one in such a position that it might easily have escaped, but so great was its terror that it remained cowering up against an overhanging piece of rock, where I easily captured it beneath my hat.

Obs.—Thomas Edmondston states that he had twice observed the "Spotted Sandpiper in Shetland," and here again *in winter*.

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The mistake is easily explained. He was in the habit of hearing the term "Spotted Sandpipers" applied to the Dunlins, which, as we all know, have the breast spotted with black at certain seasons of the year.

THE GREENSHANK.

Totanus glottis.

The Greenshank, though a regular autumn visitor to Shetland, and scarcely to be considered a common species, yet occasionally remains to breed. I had several times obtained undoubted specimens of the eggs from the shops in Lerwick, and once from Yell, but it was not until the 31st of May 1871 that I found the nest, and then it was almost by accident. I was wandering along the margin of a small pool of water, where I had so often searched in vain that, although the bird was clamouring overhead, I was paying more attention to the sunset than to the ground. Presently, at my very feet, out flew the mate of the noisy fellow, now close at hand, leaving exposed its four beautiful eggs, lying on a little dry grass in a cavity between two tufts of coarse weeds; a welcome sight indeed, after so many years' fruitless search. The eggs were long and pointed; their average length one inch ten lines, their breadth one inch three lines; in colour they were white, tinged with yellowish green, spotted all over, and blotched at the large end with rich warm amber brown and brownish purple, each of several shades. I have since obtained almost exactly similar specimens from Sutherlandshire.

THE AVOCET.

Recurvirostra avocetta.

One was seen by Thomas Edmondston many years ago, in winter, "associating with the Whimbrel on the sea-shore;" however, as the Whimbrel does not occur in winter, it is very

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probable that the observer, trusting to memory, has been misled by the recollection of cold weather in the early spring. I saw an Avocet in the salt-water marsh at Uyea Sound, on the 4th of March 1871, but have never met with any other specimen. It was quite alone, and unfortunately I had no opportunity of watching it for more than half a minute, some people passing by frightening it away far inland.

THE BLACKWINGED STILT.

Himantopus melanopterus.

Dr Lawrence Edmondston observed one among some Golden Plovers some years prior to 1843, but neither the year nor the date can be remembered. Messrs Baikie and Heddle record two that were killed at Lopness, in Orkney, in 1841.

THE BLACKTAILED GODWIT.

Limosa melanura.

This is by no means a common bird, but it occasionally visits the islands in autumn and spring. On the 5th of June 1866, passing the small sandy beach of Skioting in Balta Sound, I saw what appeared to be a Whimbrel running by the water's edge; I pulled up leisurely, but seeing a decided tinge of red upon the plumage I crouched down and allowed the boat to drift towards the shore. When I was within the distance of about forty yards the bird got up, and I immediately shot it. It proved to be a very pretty specimen of the Blacktailed Godwit. It was a female, and had nearly acquired its breeding plumage; the stomach contained sand, small stones, pieces of shells, and numerous skins of grubs. The eye was nearly black; the bill with the basal two-thirds warm yellow ochre, tinged with lake, the remaining third deep olive brown; a week after death, the light-coloured part of the bill was brownish vermilion, after-

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wards fading to dull reddish brown, the remainder nearly black; tarsi and feet dusky brownish olive; claws dark brown.

THE BARTAILED GODWIT.

Limosa rufa.

This also visits as at the same season as the species last mentioned, but I have never heard of it later than the beginning of April. I have seen flocks of about a dozen upon the sands at Burrafirth in autumn, and smaller numbers at Hamna Voe, in Yell; but the shores being for the most part rocky and precipitous, these birds appear but little inclined to make more than a very short stay.

THE RUFF.

Machetes pugnax.

In Orkney the Ruff appears to be far from uncommon, flocks of considerable size being sometimes met with in September. It is an extremely rare bird in Shetland. Indeed, I can hear of no other instances of its occurrence than those recorded in my notes for September 1866, in which month two specimens were obtained by my brother-in-law, one on the 8th and the other on the 26th. The first, a female, was shot in some marshy ground near the Loch of Cliff. The bill was nearly black, rather paler at the base; the legs and feet lead colour. The second specimen, a male, was by far the larger of the two, measuring twelve inches and a half in length, the female being two inches and a half shorter. They were much alike in plumage, but in the male the bill was yellowish at the base; the legs and feet dark dingy yellow. It was shot on the beach at Balta Sound while feeding with some tame pigeons. The stomachs contained small coleopterous insects and a little sand.

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H.L. S delt

M&N Hanhart imp

A GYO AT THE BACK OF BALTA.

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THE WOODCOCK.

Scolopax rusticola.

From all trustworthy accounts it appears that the Woodcock is common enough in Orkney, but has not been known to breed in the islands. Until lately it was very rare in Shetland;—*pace* some of my friends there, who, not knowing it from the larger waders, have declared that they used to shoot it on the shore every autumn, and that it always rose uttering a loud, ringing cry; not a bad instance of spoiling a cause by proving a little too much. It often happens that when a partially neglected locality is at length well watched, the error is frequently committed of believing certain species to be more abundant then formerly; but this I have always carefully guarded against. The best evidence of all, in the case of the Woodcock, is that people walking over the hills now occasionally mention with astonishment "a muckle snippack, the like o' which" they never heard of before. Without giving his authority, Macgillivray states that "in Shetland, although they arrive sometimes as early as anywhere else, they seldom remain long;" but it is not improbable that his informant was confounding the bird with the "Sea-Woodcock," or Godwit;—indeed, I myself have heard a Shetland gentleman apply the term "Woodcock" to one of the Godwits, entirely omitting the prefix.

From having of late often found the Woodcock crouching among the leaves in the garden at Halligarth, in the month of October, it occurs to me that stray birds, which in former times would have continued their flight, now rest there and in other gardens through the country, and afterwards discovering suitable food in the neighbourhood are in no great haste to leave. This method of reasoning, however, would scarcely account for the increasing numbers which now breed annually in Britain. It is strange that in Unst, at least, where I have had the best opportunities of observing it, it is oftener met with upon the tops of hills than elsewhere; but, as it selects those which

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are strewn with large fragments of stone, it is probable that it resorts to them for shelter, there being no cover whatever in the island, except perhaps in two or three favourite spots where the heather is taller than usual. I have seen them upon the hill-tops even during deep snow. At such times they are very sluggish, crouching beside a stone until they might almost be kicked up, and then only flying a few yards to the next convenient spot. The quarters looked cold enough, but doubtless the birds felt pretty comfortable, sitting under shelter from the piercing wind in a perfect nest of snow, with neither the back nor the well tucked-in head showing above the level. Often have I wished for even an hour's such accommodation, when night was coming on, and my journey not half accomplished.

For several years of late, the shepherd in charge of the hill called Hermanness had informed me that Woodcocks bred there, and that he had seen both eggs and young; but I was only convinced when, on the 23d of May, he pointed out a nest containing four eggs, one of which is now before me, and is of the usual shape, size, and colour. They were lying upon pieces of dry fern, among the tallest grass and heather in a deep secluded dell or hollow. The sitting bird, so far from appearing alarmed, merely watched us from a tuft of grass about fifty yards distant; though I think she imagined herself entirely concealed from view.

THE GREAT SNIPE.

Scolopax major.

I have several times killed what appeared to be very large specimens of the common Snipe; yet, strangely enough, I paid but little attention to the matter, beyond taking down one careful description, which afterwards was the means of proving beyond all doubt that the birds were the true *Scolopax major*. The two extra tail feathers were particularly observed. Several times I got them among turnips, while looking for the common

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Snipe; and as they were always very fat, I thought that accounted sufficiently for their somewhat heavy flight, not knowing the heavy flight to be a peculiarity of the larger species. As far as can be remembered, all occurred in the early part of the season, but it was seldom that any mention of their extra size was made in my note-book.

THE COMMON SNIPE.

Scolopax gallinago.

SNIPPACK—GOWK—HORSEGOWK.

Judging from the very large numbers of Snipe which breed in every part of Shetland, it seems probable that those which occur in the low grounds in autumn and winter are home-bred birds, and that no accessions arrive at those seasons, as they are known to do elsewhere. More than this, it is not unlikely that we even have birds to spare, and that a considerable migration must take place in autumn; otherwise one would think a single season would be sufficient to overstock the whole group of islands.

The Common Snipe begins laying early in May, but fresh eggs may be found even as late as the middle of August. Every peat bog or moist meadow may be regarded as a breeding ground, yet the nests are also found upon the highest hills, not less upon the steep sloping sides than upon the tops; but in no case far from water, whether it be in the form of a loch or of a mere stream trickling over the surface of the stones. The nest is by no means so flimsy and so carelessly constructed as it is usually represented to be, a tolerably thick layer of dry grass or of bits of fern being neatly arranged low down among the herbage, forming a cavity shaped like a deep saucer, and measuring four inches across. It is generally well concealed, so that when the bird sits close, as she usually does until almost trodden upon, it is difficult to discover. I have only once found as many as five eggs in a nest, and this was

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in a marsh where birds of the same species were breeding abundantly; the dissimilarity of one egg to the other four rendering more than probable that the odd one was laid by a second female. Any attempt to convey an accurate idea of the extraordinary variety of colouring which prevails among the eggs of the Common Snipe would be futile. I have seen them with the ground colour of almost every shade and mixture of tint which is known to occur among the eggs of the Scolopacidæ, from cream colour or light blue to deep brownish ochre and olive green or olive brown. The markings also vary considerably, the egg sometimes being largely blotched, sometimes minutely freckled, nor is it by any means unusual to meet with specimens having the large ends surrounded with long irregular streaks like those upon the eggs of the Yellowhammer; indeed, on looking over Mr Hewitson's figures of the eggs of the Scolopacidæ, I cannot observe one, with the single exception of the broad-billed Sandpiper, which would not, were the size altered, accurately represent a variety of the egg of the Common Snipe. Eggs from the same nest nearly always resemble one another in colouring; and among the thousands which I have seen uniformity in size and shape prevails.

In average seasons, hill-bred Snipe will remain near the breeding places until the first frost; but in dry weather, as soon as the young are fledged, they accompany their parents to the low grounds. In times of drought they will assemble in numbers during the night about the few springs which may happen to be open. Towards the end of October they visit the turnip fields, where indeed they are sometimes so plentiful that several may be seen within shot at the same moment; and at that season also I have often found them under the willow hedges at Halligarth. When the winter has fairly set in, and either frost or snow prevents them from procuring food in the usual situations, considerable numbers, sometimes as many as a score, will assemble round the open springs or wells which supply the houses with water, but the majority betake themselves to the shore. In hard weather they will even

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come to the doors of the houses.* The most extraordinary assemblage of them I ever met with was in 1864, when, on the 19th of November, a calm day succeeding a series of extremely heavy gales, I went into the island of Balta for some snipe shooting, fully expecting to find the birds in some abundance, but scarcely prepared to meet with them in flocks. As soon as the first shot was fired, seventy Snipe, at the very least, rose simultaneously from a small marshy piece of ground about twenty yards square. They broke up into several parties, soaring high and wildly, and I took advantage of this to make an estimate of their number, which I did with care, well knowing how apt one is to form an exaggerated opinion in such cases. The unusual length of the grass was the probable cause of the gathering, and the spot was well calculated to afford abundance of food as well as shelter. There were other flocks in various parts of the island, but these were much smaller. Snipe are occasionally picked up dead outside the lantern of the lighthouse on Flugga, north of Unst, having come in collision with the glass.

A Snipe, having eggs or young in the neighbourhood, will sometimes settle upon a wall, there to await the departure of the intruder, but I have only twice observed it do so in winter. One day in the end of November, at Petister, I saw one alight in a small muddy pool of water, which had collected in the angle of a peat dyke, and, half-wading half-swimming, scramble beneath an overhanging piece of turf; the water being sufficiently deep to hide part of the breast.

* I have then frequently seen Snipe close under the window, tapping the ground with their bills in the vain endeavour to find a soft spot where the snow had been swept away. One greatly excited my compassion by its miserable appearance, and I endeavoured to tempt it with some small strips carefully cut from the breast of a glaucous gull. These so much resembled earthworms that I confidently placed them in the bird's way, but although it ran about among them, and evidently perceived them, it never attempted even to take one in its bill. I have since asked myself whether the Snipe ever does take food from the surface. Very early one terrible winter morning I found a dead Snipe upon the ledge outside the kitchen window, crouched up almost into the form of a ball, and in such poor condition, that when I took it into my hand its weight seemed very little more than that of a stuffed skin.

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With regard to the well-known "drumming" or "bleating" of the Snipe, my belief that it is produced by the male alone is now changed. On reading Mr Harting's statement ("Birds of Middlesex," p. 190), that on his disturbing a pair from a nest both birds flew round him "in circles, making this peculiar noise for nearly half an hour," I resolved to try the very unsportsmanlike experiment of shooting some of the birds in the breeding season. Accordingly, availing myself of opportunities in which only one bird at a time was drumming in the air, the cruel result was the death, first, of three males, then of a female, when of course the series of murders ceased, the point being settled. The many years' intimate acquaintance with the bird and its habits which I have enjoyed, confirms me in the now generally received opinion that the drumming is produced by the vibration of the wings alone; indeed, it may be imitated by cutting sharply downwards through the air with the outer edge of a stout quill, and could the act be continued for a few seconds, the result would be thoroughly convincing. The once universal idea that a sitting bird would produce the same sound, for the purpose of misleading intruders near the nest, is now exploded. The drumming of the Snipe seems to be heard with even increased frequency in wet or misty weather.

[Many years of isolation from the old work must plead my apology with the well-informed reader, if the point be—as is very possible—now regarded as settled beyond all need for remark; but perhaps it will not be unduly intrusive if I subjoin an extract from my own notes on this subject, somewhat more in detail, written in Shetland in 1854:—"I have carefully watched the Snipe upon the wing, to observe their flight while making the peculiar 'drumming' noise. The drumming is always preceded by a sharp call several times quickly repeated, on the cessation of which the bird instantly makes a diagonal swoop in its flight, the wings vibrating with rapidity during the continuance of the sound. At my brother's suggestion, I have imitated the sound with tolerable accuracy by sweeping round at arm's length a large quill-feather, as of a

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swan or eagle, which, if held tightly in the hand, will produce much the same noise by its tremulous motion as the edge cuts the air. I am hence led to conjecture that the sound is caused by the bird setting its wings rigidly at the conclusion of its note, and letting itself shoot ahead with its previous impetus." We many a time spent an hour, on the side of Vallafjeld, motionless in the heather, studying the ways of the Snipe, with the aid of a telescope, and then tried our great eagle's feathers, borrowed for the purpose, with the sound fresh in our ears. The result was convincing.—ED.]

THE JACK SNIPE.

Scolopax gallinula.

The apparent certainty that if the Jack Snipe bred anywhere in the British Islands, Shetland would be one of the favoured localities, formerly led me to entertain great hopes of being able at length to see it in its breeding haunts; nor were these hopes diminished by repeated assurances from the better class of the inhabitants, not only that the bird remained throughout the summer, but that the eggs were often found. I was greatly disappointed, therefore, on making the discovery that although the Dunlin is known as the "Plover Page," it is also called the "Jack Snipe" by those who have seen that species mentioned in books. I have never seen it later than the middle of April, the very first sunny day about that time seeming to be quite sufficient to drive every bird of its species from the islands. It is not very regular in its visits; indeed, a whole season sometimes occurs without one being seen, but usually it is very abundant, especially after long-continued snow. At such a time it is to be met with plentifully near high-water mark, no matter what the state of the tide may be, feeding among the drift quite openly, and taking little if any notice as one walks leisurely along filling the bag with its neighbours, the birds feeding fifty or a hundred yards apart. At whatever time they are shot, they

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always seem to be in excellent condition for the table. In this shore feeding, the Jack Snipe do not, like the larger species, crouch the moment any danger comes in sight; accordingly, they are much persecuted by the Merlins, which I have repeatedly seen drive them up and then capture them.

THE CURLEW SANDPIPER.

Tringa subarquata.

A pretty constant autumn visitor; the numbers in which it arrives, nevertheless, vary considerably. It usually appears early in September, mingling freely with Dunlins and Ringed Plovers; at first seeming partial to low meadows and fresh-water lochs, even when some distance inland. Only a very few are met with in spring, though occasionally one or two may be seen about the end of May, with the summer plumage in an advanced state; but there is no reason to suspect that it ever remains to breed. A very beautiful male specimen of this bird was brought to me on the 7th of June 1859, by a fisherman who caught it sitting upon the water, about twenty five miles north-west of Unst. He said that as the boat rowed up, he merely laid the blade of the oar upon the bird, and drew it towards him. The weather was perfectly calm at the time. The note is something like that of the Dunlin, but it is easily recognised; the voices of the two species blend together pleasantly enough upon the beach at night. The Curlew Sandpipers retire late, and are generally also the earliest birds upon the beach; that is, when by themselves, for as soon as they mix with the Dunlins they seem to cease thinking of their own movements, leaving themselves entirely under the direction of their new friends. It is nearly always easy to get near them; except, perhaps, when a Redshank condescends to associate with them, and then the getting within eighty yards is next to an impossibility upon open ground. At high-water they will resort to stubble fields near the sea, not for the purpose of feeding, but for repose; and at these times they are so little upon the alert

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that I have almost walked into the flock, as much to my own surprise as to theirs, for no sign of a bird was to be seen until those nearest me took wing. I once winged a Curlew Sandpiper from a mixed flock, and, as it fell upon a small shingle bank surrounded by the water, about a dozen of its own species, separating themselves from the Dunlins, alighted upon the shingle and began feeding; and when I threw stones over them, wishing to drive the wounded bird into the water, so that it might drift ashore, the only effect was to cause them to crouch down as if a hawk were passing over, and it was not until I had waded within a few yards of them that they flew off and rejoined their late companions.

THE KNOT.

Tringa canutus.

In Thomas Edmondston's manuscript notes to his Catalogue of the Birds of Shetland, he honestly confesses himself to be "all at sea regarding the breeding of the Sandpipers," therefore but little reliance can be placed upon his previous statement that this species is "resident, but not common." Yet I have little doubt that it does occasionally breed in the northern districts, having seen and shot the birds in perfect summer plumage, both at the beginning and the end of June, and having later in the year met with young ones so weak upon the wing that it seemed impossible for them to have crossed the sea; indeed, they rather fluttered than flew. Eggs, too, were once sent to me from a spot where I had long suspected the Knot to breed, but of course their value was destroyed by the lack of information regarding them. They resembled the eggs of the Reeve in colour and size, but were not so sharply pointed. There can be little question that they belonged to this species, but I had at hand neither specimens, figures, nor even good descriptions with which to compare them.

Knots usually arrive in September, those very few which are occasionally seen in July and early in August having probably

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remained since spring,—but they are very seldom observed in winter. On their arrival they are exceedingly tame, so that it is not at all difficult to approach within half-a-dozen yards of them upon the open shore; but they soon become suspicious, and when once fairly roused fly high and wildly, wheeling over the ground many times before alighting. They are mostly met with in small parties of about a dozen, but occasionally several of these parties join, and continue in company for days together. Whatever may be the case elsewhere, in Shetland they seem to prefer gravelly to sandy or muddy places, the attraction no doubt consisting in the myriads of small periwinkles which are found below high-water mark in the former situations. Knots generally keep close together while feeding; and when a few occasionally stray apart, they seem to become suddenly aware of the fact, and hastily return to the main body. As far as I can ascertain, it is their custom to feed silently, but the moment an intruder is perceived, they, without interrupting their employment, set up a continuous low chattering, not unlike that made by a flock of Starlings; and when too closely approached, they stand motionless for a few seconds and then fly off, uttering louder cries. Very often they alight close to their dead or wounded companions, not taking wing until the shooter is within a few steps of them, and even then they are nearly sure to settle again close to the same spot. When wounded, these birds will crouch and hide if they happen to fall upon land, and, as in the case of the Curlew Sandpiper, stones thrown at them only cause them to crouch still closer; but on falling into the water they use every effort to escape, swimming remarkably well, though I am not aware that they dive on such occasions. When they drop into the water, they avoid turning their back to the wind, a strong gust being very likely to catch them under the wings and plunge the fore part of the body beneath the surface. The plumage suffers less from immersion than that of most other Sandpipers. At all times, but more especially during flight, the white upper tail coverts are conspicuous.

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THE LITTLE STINT.

Tringa minuta.

This little Sandpiper occurs in Unst almost every autumn, in small numbers, but I have not heard of it in any other part of Shetland. September is the month in which it usually appears; but it resorts more to the small sheltered pools inland than to the shores, and seldom remains more than a week, so that it is easily overlooked, except when special search is made for it. On a shot being fired, and one or more of their number killed, they merely flit away for ten yards or so, and immediately resume their search for food, repeating the same process time after time as other discharges take place, until, seized with a sudden panic, and at length becoming aware of the danger of their situation, they rise together and fly wildly away to a considerable distance, commonly towards the shore, where, if they perceive other Sandpipers, they join them without hesitation. During the last few years I have carefully examined each flock, and shot suspicious looking birds, in the hope of being able to find Temminck's Stint, but my endeavours have been unsuccessful. The main points of difference between the two species are shown at a glance in Mr Harting's "Birds of Middlesex." Messrs Baikie and Heddle record the occurrence of one example only of the Little Stint in Orkney.

THE DUNLIN.

Tringa variabilis.

PLOVER PAGE—JACK SNIPE (!)

Judging from the large numbers of Dunlins which are hatched in these islands every year, it might reasonably be expected that the shores would be crowded with them in winter; yet at that season they are by no means proportionably numerous. More than twenty or thirty are seldom seen in a flock, except

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occasionally on some of the few sandy beaches, such as that of Balta, or Basta Voe. They must certainly undergo a partial migration in autumn, otherwise even the young birds of one single season would be as swarms upon the shores in the winter time.

The breeding haunts of the Dunlin are precisely similar to those of the common Snipe; the same situations are also chosen for the nest, and, of course with the exception of their inferior size, both nest and eggs closely resemble those of that bird. It does not however breed so late, the last eggs usually being seen about the beginning of July, and the earliest in the middle of May. Sometimes, but not often, the nest is found upon the tops of the highest hills; those only a few hundred feet above the sea-level are preferred. The vicinity of water in some form seems to be necessary; and although it sometimes happens that there is none within perhaps a quarter of a mile of the nest, the bed of a recently dried up pool or stream will always be found near. When a Dunlin is nearly hatching and is suddenly disturbed, she flies off the nest, and alighting almost immediately, runs trailing the wings, and uttering a peculiar shrill cry. When the danger appears to be over, she returns by running until within about twenty yards of the nest, and then, after pausing awhile, and looking round upon all sides, flies the remaining distance. In the breeding season these birds have a singular habit of hovering at a considerable height—perhaps ten or fifteen feet—above the ground, at the same time quivering the wings and uttering a sort of shrill but gentle warbling sound. The young are beautifully mottled with cream colour and various shades of rich reddish brown. They run from the nest very soon after they are hatched, and are always accompanied by both parents, who now show but little fear of danger, running round an intruder as if for the purpose of leading him away, but never, so far as I have observed, feigning lameness under these circumstances.

It has so happened that, beyond the few which I required for specimens, I have scarcely ever shot the Dunlin in Shetland,

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the flocks seldom being sufficiently large to be worth following, even when I would gladly have procured a dozen or two for the table. I much regret this, it having only lately come to my knowledge that another species, or very distinct variety, is supposed to exist in some parts of Scotland. It appears to be the rule that in the case of a mere undersized *variety* of a bird, the bill, tarsi, and feet are nearly if not quite of the ordinary length; but with the Dunlin those parts are decidedly smaller in the smaller birds. All my Shetland specimens are of average size.

In Orkney and Shetland this little bird is known as the "Plover Page," from the frequency with which it is seen in company with Golden Plovers, feeding with them, flying with them, and attending them in all their movements. Usually but one bird attaches itself to a flock.

In open weather in winter, or early spring, small parties, quitting the shores, will betake themselves to the hills, which at those seasons abound with small streams and swampy patches, and there, if undisturbed, they will remain until the time arrives for them to pair off.

THE PURPLE SANDPIPER.

Tringa maritima.

STANE-PECKER.

Messrs Baikie and Heddle refer to this species as if it were rather uncommon in Orkney, observing that it "not unfrequently appears" during winter, at the same time mentioning a specimen preserved in the Kirkwall Museum. Mr Dunn records that it "is very numerous in Shetland and Orkney, appearing early in the spring, and leaving again in the latter end of April." From my own experience in the matter, I can safely assert that, from the beginning of October to the beginning of May, it is by far the commonest of the Shetland Sandpipers, and, it may be added, from its tameness, the most interesting. Its habits are best observed upon a lee shore after a breeze of sufficient strength

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to cause a pretty heavy swell. These birds may then be seen to advantage, running and climbing about the large rocks, picking off shells and small insects; every returning wave apparently so nearly sweeping them away, as it rolls foaming up the steep beach, that, in spite of one's self, it is almost impossible to leave the spot, fully expecting that the next will overwhelm them. But often as I have watched them, such an untoward event has never been witnessed, so vigilant are they, however deeply engaged in their search; and so nimbly do they rise, almost perpendicularly, at the precise moment when the rising wave seems to be upon the point of bearing them with it. It is usually during or immediately after a gale, when the whole of the rocky parts of the coast are buried under a constant cloud of heavy spray, that they seek the open shore. There, in company with Turnstones, Dunlins, or Ringed Plovers, they find, cast up by the sea, more than sufficient for their wants, though they still prefer to obtain their food at the very edges of the waves. When, however, the gale is so furious that remaining exposed to it is utterly impossible, they retreat to the shelter of the rocks; but they sometimes come inland, where they seem pretty well contented under the lee of the walls. I have seen them at such times feeding within a few yards of the front of the house.

As spring approaches, small parties are often met with upon the tops of the hills, several hundred feet above the level of the sea. Returning homewards rather late one evening, across a piece of wet gravelly ground upon a hill near Balta Sound, I heard a low grating noise, and after some little search discovered that it proceeded from a Purple Sandpiper, which was standing near with its bill partly open, and apparently making great efforts to swallow something. I then shot the bird, and found in its mouth a small roundish stone, partly covered with a minute vegetable substance, which also grew in great abundance upon every stone beneath the slowly trickling water. A large quantity of the same substance was present in the stomach and œsophagus, and more of it was thickly entangled in the

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double row of papillæ upon the palate. I afterwards shot two more of the same species similarly engaged. This certainly looks very much as if the papillæ, assisted by those at the base of the tongue, acted together as a kind of double rasp.

The familiarity of these birds often enables one to approach within a few feet; sometimes in the dusk of the evening I have succeeded in creeping up so close that I might almost have touched them with the muzzle of the gun. At such times I have heard another very peculiar sound, nearly resembling the loud ticking of a watch. At first it seemed likely that it proceeded from the bursting of a succession of air-bubbles as they ascended from the hidden inhabitant of one of the pools of water near at hand; but afterwards hearing it when the bird was standing upon a piece of dry ground, some distance inland, my opinion was altered.

The Purple Sandpiper is an excellent swimmer. In calm weather I have seen three or four, belonging to a larger party, swimming actively about the base of a rock upon which their companions were feeding. I never saw one dive except when wounded and closely pursued. Sometimes, when I have disturbed one on a calm day, it has taken wing, and has deliberately alighted upon the water several yards from the shore.

These birds seldom appear in Shetland in anything like a large flock, but are mostly found in parties of perhaps a dozen or thereabouts, usually by themselves, their habits differing from those of the other Sandpipers. They become less active at high-water, when their feeding places are covered; and at that time they loiter about the rocks, waiting for the tide to fall, sometimes sitting upon the half-submerged fronds of the larger seaweeds. As they generally take the seaward side of the rocks, they are not to be seen from the shore while thus at rest. So little fear of man do they show, that occasionally it is difficult to alarm them; provokingly so, now and then, when one wishes to obtain a specimen, and the bird, refusing to rise, stands quietly with its head upon one side, as though it were highly amused at such an amount of "clucking" and gesticula-

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tion. In fact, the little monkeys sometimes turn the tables upon you altogether, for you *can't* shoot a bird when it is pleased to see you.

A few pairs remain during the breeding season both near the marshes and upon the hills. I have never found the nest myself, but eggs have been brought me from the haunts of the birds exactly resembling authentic specimens of the egg of the Purple Sandpiper; they are longer than those of the Dunlin, and considerably broader, but very similarly coloured. Early in August I have shot first year's birds upon the shore.

The adult has the tarsi, feet, and basal half of the bill light orange yellow, tinged with ochre, the other half of the bill deep brown, gradually becoming black at the point; in the breeding season those parts are more brightly coloured, but in birds under a year old they are of a much dingier hue, and tinged with green.

THE GREY PHALAROPE.

Phalaropus lobatus.

It is only in autumn that we meet with this Phalarope in Shetland, and even then but seldom. Probably on account of its usually arriving in stormy weather, it shows but little partiality for the sea, seeming to prefer large burns running over a pebbly bed, or those shallow pools of water so often met with in the hollows of the hills. I once killed two out of three, but that was the only occasion upon which I have seen more than one at a time.

THE RED-NECKED PHALAROPE.

Phalaropus hyperboreus.

Having read Thomas Edmondston's contradiction of his former statement that the Red-Necked Phalarope was a rare winter visitant to these islands, and being unable to obtain an authentic account of its appearance upon any one occasion, some years

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ago I fell into the serious error of asserting positively that it was unknown here; an error, however, which I was happy to correct, when, in 1864, a bird of this species was taken in Unst and brought to me. Upon making inquiries among the people of the neighbourhood where the bird was shot, I became aware, to my surprise, that it was seen in considerable numbers every summer in the marshes; and not only there, but at one particular spot near the Loch of Cliff, neither of which localities it so happened I had ever chanced to visit in the summer time. I have since had many opportunities of visiting the breeding haunts, and finding the nests. A few extracts from some notes jotted down nearly upon the spot, while the subject was new to me, will perhaps convey a better idea than a formal description:—

June 24th 1867.—About eleven o'clock this morning I started for ——,* determined to make a thorough search for Phalaropes' eggs. The marshes lie close to ——, among some low meadows about a quarter of a mile from the sea; and on arriving at a rushy swamp about a hundred yards in length, which is the only place where the birds are seen, except in the deep burn which runs from it, I at once began wading. Soon I discovered several pairs of Phalaropes scattered among the rushes at one end of the swamp; and as they kept very close to the little squashy islands which rose up here and there, I examined those spots very carefully, but nothing in the shape of a nest was to be found, either there or at the edge of the water, where the grass was long and of tempting appearance. Having spent about two hours in this way without the smallest success, I very reluctantly turned my steps homeward, and, after proceeding about a mile, sat down

* The suppression of the local names in this especial extract may perhaps be unwelcome to the skin-and-egg-shell fancier, but the good ornithologist will scarcely find much fault with it. Some of the choicer birds of Shetland have already had only too good cause to lament the change which has come over their relations with the south, since, for example, the days when the unlucky fellow who brought the news of William's landing in Torbay in November 1688, had to spend his winter in the prison of Lerwick, in the absence of any confirmatory tidings.—Ed.

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to eat my lunch, and to write in my pocket-book a few particulars as to the appearance and habits of the birds. I then took time to think over the matter quietly. The fact of my having found a nearly perfect egg in one of the birds shot at the same place only a few days previously, proved quite plainly that my want of success was not owing to the young being already hatched; besides, even if they were abroad weeks ago, where were the nests? It was certain that the eggs were somewhere, therefore I returned to the marshes, determined not to leave a single square yard unexplored.

As before, I put up plenty of Snipe and a number of Dunlins, all in beautiful summer plumage, and once more fell in with pairs of Phalaropes in all directions, but still there were no nests. Then, up to my knees in mud and water, I stood still, wondering, and, it must be confessed, not a little out of temper. Now, at the other end of the swamp, where there seemed to be no birds, was a quantity of drier ground, covered with moderately long withered grass, and intersected in every direction by numerous irregular natural drains, some not more than three feet wide, others as many yards, but all forming a network so close and intricate as to leave no piece of dry land larger than ten or twelve feet across. Again I set to work, not, it is true, with any great hope of success, but because I had fully resolved to examine the whole of the swamp, so that in case of failure there might at least be no after reproaches. Very soon I discovered what my error had been. First, I found a rough sort of nest, composed of dry grass, too small and too deep for a Dunlin's, and therefore, in all probability, that of a Phalarope; then, within a few minutes, I discovered two more nests, newly commenced, but no eggs. Shortly afterwards I picked up the broken shell of a newly hatched egg, then fragments of three others, and close beside them a perfect nest. I carefully packed the fragments in a chip box, in order to convince sceptics, and then noted down the description of the nest. It consisted of nothing more than a cavity low down among the tall grass; deep in form, and rather neatly lined with

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blades of the same, most of which were broad and flat; at the bottom they formed a bed about half an inch in thickness; from the upper surface of this bed to the rim of the nest the height was nearly three inches, the width across the inner rim a little less than two inches. Very shortly afterwards, a male Phalarope rose unexpectedly, and alighted in the water about ten yards off. Marking the spot as closely as possible, I floundered through the muddy water, scrambled upon the little island, and soon afterwards, to my intense delight, discovered a nest and four beautiful eggs, all lying with their small ends meeting in the centre. They were hard set, but for all that, were a most valuable prize. The nest only differed from the last in having a few feathers, apparently from the breast of one of the birds, lying loosely inside. After this I quartered about for a considerable time, and in the best of good tempers. I found some more half-finished nests, and a few deserted ones, and finally I discovered yet another nest containing four eggs, and another with a single one, all quite fresh. Oddly enough, in this part of the swamp I saw but the one bird already mentioned, while in the further part, among the rushes, they were, as I have stated, abundant. I can only account for this by supposing that they had young ones which they had led away for concealment, and that the few birds which had eggs must have escaped my notice.

The fresh eggs found in the second nest are of a pale yellowish olive green, spotted all over, but rather more so at the broad end, where the marks are also larger, with several shades of brownish and purplish grey and deep umber brown. All are of a lengthened pyriform shape; three measure one inch two lines in length by ten lines in breadth, but the fourth is one line longer and one line narrower. Those of the first set are not quite so sharply pointed; the ground-colour is warmer, and the markings are of a redder tinge. They all measure one inch three lines by ten lines.

The single egg is of the exact size of those last described, but the ground-colour is darker and greener, and some of

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the blotches at the broad end are very large. These apparently over minute particulars are worth recording, because a slight difference in colouring, or a variation in measurement, more or less, is often supposed to be quite sufficient to decide a dispute as to species. The peculiar appearance of Phalaropes' eggs is owing to the roundness and distinctness of the markings, which for the most part are scattered all over the surface, instead of being confined chiefly to one end; the distinctness of the markings is owing to the comparative scarcity of under tints.

While wading in the swamp, the first indication I had of the presence of the birds was the peculiar note, heard singly at first from one individual; but afterwards it was echoed from all sides by numerous voices. I scarcely know to what the note can be likened except to the word *quilp*, uttered rapidly several times in succession, and then after a pause again repeated. This seems to be common to both sexes, but as they take wing the male utters a sharper cry. Often, when closely pursued in the water, they utter a loud chattering noise, at the same time swimming almost as fast as one can wade. The note of the young birds is nearly similar to that of the old ones, and in fine weather it can be heard distinctly when the birds are flying so high as to be almost out of sight. Sometimes they fly very rapidly, but when anxious to return to the rushes they proceed by means of a number of short jerks with the wings, and then drop suddenly. As they fly overhead the wing appears to form a sharper angle at the carpal joint than I have observed in the Sandpipers. Red-necked Phalaropes seem to entertain but little fear of man, and even the hateful gun itself often fails to terrify them. It sometimes happens that when large shot is fired from a distance at one sitting in the water it escapes untouched, although in the very centre of the charge. On such occasions I have seen it, so far from being alarmed, rise for the height of two or three feet, and after hovering over the disturbed water for a few seconds, alight again in the very same spot. Their behaviour is sometimes quite unaccountable—at least to myself. One day early in

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June, following up the winding course of the broad quiet burn which flows through the marshes, I suddenly observed a pair of Phalaropes close together near the bank, partly concealed by the marsh marigolds, and never for a moment at rest, now swimming rapidly out with a pretty nodding motion of the head, and next moment threading their way among the tall stems of equisetum, occasionally darting forward to pick some floating particle of food from the surface. Thinking to obtain them both, I fired. One, the female, fell over, dead; the other fluttered to the land, as I thought mortally wounded. So heavy was its flight that my companion immediately gave chase, making sure that he should catch it with ease. He pursued it for a considerable distance over the grass, more than once nearly getting his hands upon it, when suddenly, to his dismay as well as to my own, it rose and flew vigorously towards the loch, where it went quietly down among the thick herbage, and was lost to us.

One day in July 1867, as I was sitting by the shore of the large loch at Belmont, partially concealed by the tall rank herbage, watching a Red-breasted Merganser with her young brood, and wondering at the speed with which the little downy creatures could swim, I heard the well-known cry of Phalaropes, and looking up I saw two of them coming towards me, rather high in the air. Suddenly they dropped toward the deep part of the loch—this sudden dropping from a height being a well-marked habit of the species—and then they swept inshore, and alighted in the water about five yards from the brink, and so close to me as to give the best possible opportunity for watching them. When quiet and undisturbed, they sat with the neck drawn in and the head low between the shoulders, occasionally dipping the bill into the water. Both were first year's birds, as I could see by the paleness of the red upon the neck. A Phalarope may be said to almost never rise silently. On taking wing, it will generally fly straight for a short distance, and then wheel off abruptly.

My observations fully bear out Mr Dunn's statements, that

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the larger and more brilliantly coloured of the pair is the female; not the male, as is usually supposed. The stomachs of all I have examined contained small insects, some fine vegetable matter, and a little sand. The tarsi and feet of a newly killed bird are lead colour, with dusky marks upon the joints; the bill black, and the eye very deep brown.

It is scarcely probable that the Phalarope's only Shetland breeding station is in Unst. Hitherto I have inquired carefully for it in various parts, but it seems to be quite unknown. I have no doubt, however, that it will yet be discovered in Fetlar and upon Mainland by some person who has time to explore the reedy margins of the lochs during the months of June and July.

The Phalarope is said to arrive in Unst every year about the same time as the Lapwings.

V. *RALLIDÆ.*

THE LANDRAIL.

Crex pratensis.

CORNCRAKE.

Landrails arrive in considerable numbers about the end of May, and may then be heard in every cultivated district throughout the islands. At the time of their first appearance, vegetation has made so slight an advance that they are easily seen, being quite unable to conceal themselves among the short grass or corn. I have killed them in autumn as well as in spring, and have usually found them in good condition at both seasons. Many of what the Shetlanders term "the learned" class, *i.e.*, those who possess books, are firmly of opinion that the Landrail remains the whole year round; the main fact which they advance in support of their theory being that it is sometimes found in winter, in a torpid state, among the crevices of

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old walls, or in corn-stacks. Were a careful record of dates kept, the matter would soon be set at rest. So lately as the 28th of May, three years ago, a Landrail was brought to me by a man who had just before discovered it in the ruins of an old turf wall in course of removal, and he most earnestly assured me that the whole of the Landrails resorted to similar places during winter. It was in vain that I pointed out the excellent condition of the bird, and reminded him that having probably arrived but a few days previously from a warm climate, it was unable to withstand the bitterly cold sleety wind which was blowing at that time; the opinion was too firmly rooted to be shaken off. That such cases occur in spring and autumn cannot be denied; but it should be remembered that the discoverer of the bird in its concealment, calling to mind in after years the fact that the weather was cold, and that there were no crops upon the ground at the time, at once concludes that the season must have been winter. Instances are also reported of the Landrail having been shot in mid-winter, the date being carefully noted; but so have Chiff-chaffs and Puffins, and nobody, so far as I know, thinks of offering any suggestion as to their hybernation. On examining the numerous accounts of the appearance of the Landrail in winter, it seems not unlikely that the Water-Rail, a regular winter visitor, may have often been mistaken for the Landrail, especially as it is so frequently caught hiding in drains and crevices.

When alarmed, the Landrail lies very close. I remember a mower at Buness accidentally laying bare a nest containing ten eggs, nearly ready for hatching. On my reaching the spot shortly afterwards, the bird was nowhere in sight, although she had been seen there immediately before. I remained about five minutes, examining the nest and eggs, the mower standing all the time upon a large handful of hay which he had thrown down to mark the spot; but, to our surprise, no sooner did he begin to move than the bird flew out from the hay between his feet, and went down into the standing grass about twenty yards distant. The nest consisted of a nearly circular hollow, three

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inches deep in the centre, and carefully lined an inch thick with fragments of weeds and small pieces of moss. The cavity measured seven inches across.

In Shetland the calling of the Landrails may at times be heard throughout the whole night. I am inclined, however, to think that they nearly always become silent immediately after they have paired.

THE WATER-RAIL.

Rallus aquaticus.

Cover of sufficient height to conceal even a Water-Rail being very scarce in those spots most likely to be frequented by such a bird, it is not to be wondered at that examples were rarely met with previously to the formation of the gardens, far from the neighbourhood of which it is scarcely ever seen. Necessity, however, frequently compels it to wander away from its garden stronghold to neighbouring springs and ditches, from the sides of which almost every blade of grass has been closely cropped by hungry cattle; hence it happens that the Water-Rail is here very often seen on wing, there usually being no other resource for it when surprised. Twice I have taken a very long shot at it upon the ground, and each time it has dropped motionless; upon my approach, however, jumping up, and after running for a few yards, flying vigorously away to the nearest shelter. The secluded habits of this species afford but little opportunity for observation. I therefore give an extract or two from the note-books.

March 31, 1864.—During the winter, Water-Rails were to be seen in many parts of these islands. Upon the whole, they may be considered rather scarce here, but they have been more frequently met with this year than previously. As soon as the frost sets in, they visit enclosed grounds, sometimes venturing into corn-yards, and even to our very doors; but I never found corn in their stomachs, even in the most severe weather. One couple invariably takes possession of an angle

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of a rough wall, near a small spring, and where a thick row of willows affords them some concealment, even in winter. A few others are to be seen in the garden, where it is probable they will soon become acquainted with cats and Merlins, which seem to be especially fond of preying upon such poor wanderers as seek shelter therein. How the two just mentioned manage to escape is a mystery, but I fancy they exercise even more than usual caution. Sometimes I have crept behind the wall and watched them through the crevices; but no matter how cautiously I approach, they can always hear me, and are never in sight when I take my first peep. After a while, however, one slowly glides from among the tangled herbage at the foot of the hedge which skirts the wall, stands to listen, and then, if satisfied, walks rapidly about the grass, nodding with every step, and constantly picking at something upon the ground; occasionally it catches sight of some article of food several feet distant, and runs headlong to seize it. When I raise myself so as to see above the wall, although there is a pretty fair screen of twigs, I am instantly perceived, and the watchful bird stands for some seconds with its neck at full stretch and its tail elevated; then, as if convinced that the apparition is not to be trusted, it makes off for shelter with all speed. The bird which, from its smaller and more slender make, and more subdued colouring, appears to be the female, is much the more shy of the two, never coming out until some minutes after its companion. Once, when both were out, and within a fathom of me, I tried the effect of suddenly rising to my feet. Instantly the astonished birds scampered off for shelter, and in an almost incredibly short space of time one darted through a chink on my side of the wall. It stopped abruptly on perceiving me, and then, instead of retreating, took wing, and with heavy flight dropped towards the mouth of a drain about forty yards distant, and in the twinkling of an eye was out of sight.

November 30, 1864.—On the 7th of November, during a strong N.E. wind, a pair of Water-Rails visited that same angle

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of the wall to which I have before alluded as being a favourite resort of this species, and there they still remain, only venturing forth upon the grass very early in the morning, or in calm bright weather. Sometimes, though rarely, one may be seen walking along the top of a wall; but the slightest sound is always sufficient to drop it into the weeds and bushes below. A dog will sometimes put them up, and upon such occasions I have seen them fly for about a hundred yards, keeping at a height of twelve or fourteen feet above the ground, seldom higher. After having been thus disturbed, they always alight at some place of concealment, such as the mouth of a drain, or a mass of tangled herbage. They fly heavily, and seem to experience some difficulty in rising. On surprising one upon the snow and compelling it to take wing, it is easy to trace for a short distance the marks where the snow has been brushed away by the tips of the quills.

Some years ago a bird of this species eluded my search in a manner as clever as it was unexpected. Having seen it run beneath some weeds which overhung a frozen ditch, I endeavoured, by walking along the ice, to drive it to one end where there was no shelter, and so make certain of it. Some fine snow had drifted beneath the weeds, and, it being easy to distinguish the single row of footmarks leading in the desired direction, I followed at a very good pace; but just at the time when the bird ought to have risen at the end of the ditch, to my surprise there appeared a second row of footmarks, leading in a direction exactly opposite to the first. I turned and followed in all haste, but the cunning bird fairly outwitted me, for the track ended at the opening of a drain many yards beyond the point from which we had started. I afterwards had the curiosity to trace back the old marks, and then perceived that the bird had doubled as soon as the cover became insufficient; and that, rather than expose itself to view, it had deliberately run into the very face of danger, passing me within the distance of a foot, as if fully aware that the attempt, though hazardous, offered the only chance of escape.

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THE MOORHEN.

Gallinula chloropus.

This is merely a winter visitor of rare occurrence. It is even less frequently observed in the north isles than in the southern portion of Mainland, where several specimens have been shot. It is, however, sometimes met with in Unst, as, for example, at Haroldswick, where a female bird was killed on November 7, 1865. Adult females seem to have the red patch upon the forehead, as well as the males.

VI. *LOBIPEDIDÆ.*

THE COOT.

Fulica atra.

Although breeding in Orkney, the Coot seldom visits us, and then only in winter. Like the Moorhen, it is seen oftener in the south than in the north. I once saw a Coot swimming in the harbour at Lerwick, after a severe gale from the south, and have little doubt that, like the others which are occasionally observed, it was but storm-driven from Orkney. Even an old bird soon becomes tame; a few days, indeed, after its capture, but it seldom survives more than two or three weeks. I have heard of one, however, which lived upwards of a year, a small pond to which it had access being probably the means of prolonging its life, unfortunately terminated by a wandering shooter. On November 15, 1865, a man brought me a Coot from Burrafirth, but I could not ascertain where it was killed.

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NATATORES.

I. *ANATIDÆ.*

THE GREY-LAG GOOSE.

Anser ferus.

Even now that the Gun Licence Act has silenced some few of the guns, there is but little hope that the Grey-lag will visit Shetland regularly. Many authors take for granted that it is a common species here, but it appears that even as long ago as the end of the last century, when guns were scarcer and the population was far smaller than at present, but few Geese were seen either of this or of other species. In fact, the Grey-lag may be regarded almost as an accidental visitor, occurring in autumn or spring during bad weather, and never remaining beyond a few days. Two were killed in North Mavine about eight years ago. It is said to have been shot frequently in Unst, but I never saw it during the whole period of my residence there.

THE BEAN GOOSE.

Anser segetum.

This species also is but a straggler to these islands, appearing at the same seasons and under the same circumstances as the last. I have met with it in small flocks,—twice in Unst and once in Yell.

THE WHITE-FRONTED GOOSE.

Anser albifrons.

Very large flocks of this bird have been known to occur, but its visits are few and far between. I have been shown

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the skin of a white-fronted goose, shot from about fifty in Norwick Bay, in the spring of 1862, at which time considerable numbers were seen in the more sheltered voes in Yell and Mainland, and many were shot. The inhabitants looked upon their arrival as something quite unprecedented.

THE BERNICLE GOOSE.

Anser leucopsis.

In the first week of July 1854 I observed an example of this unmistakable species upon the shore at Balta Sound. No other authentic instance of its occurrence in Shetland has come to my knowledge.

[We had a long and careful study of it with a telescope from behind a wall at less than a hundred yards distance, watching it until it was driven away by a party of skuas. It was feeding upon the flats near Skibhoul.—Ed.]

THE BRENT GOOSE.

Anser Brenta.

The Brent Goose we can generally depend upon seeing at least once every autumn, usually after rough weather from the south; but it seems very little inclined to proceed as far as the north isles. It has, however, been shot pretty frequently in Unst, where it appears singly or in very scanty numbers. Sometimes I have met with it feeding among the rocks at ebb tide, or upon the quiet voes, early in the morning; but in those situations it is always difficult to approach. Occasionally they alight and feed among tame geese, when they may easily be walked up to and shot as they rise. In the evening they generally fly low, except when bent upon a distant expedition. I remember one evening seeing a small flock upon the sands, where I had several times vainly endeavoured to get a shot at them. My whole stock of shot being exhausted, I foolishly, it must be confessed, dropped a thick steel watch-guard upon

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a charge of powder, and then lying upon my back among the dark sea-weed, in the very line of their usual flight, sent my companion round to drive them. Making a wide circuit inland, he ere long appeared exactly upon the opposite side of the geese, and drove them up. As they came clamouring overhead, certainly not more than forty or fifty feet above the sand, I fired; one of their number fell some yards behind me, and on picking it up I found the neck almost completely severed.

The bill, feet, &c., of this species are always described as being black. In all recent specimens which I have examined the bill alone has been of that colour, the tarsi and feet being strongly tinged with olive green, paler upon the joint of the tarsi and the upper surface of the toes. The customary knob at the carpal joint of the wing appears to be somewhat prominent in this goose.

The Brent Goose would seem to be too scarce to have acquired a local name; some, nevertheless, assert that it is known in Shetland as the "Horra Goose."

THE HOOPER.

Cygnus ferus.

SWAN.

In Low's time the Hooper bred regularly in Orkney, but it does so no longer; Messrs Baikie and Heddle merely stating that from October to the end of March it frequents the loch of Stennis, its former breeding-place, as well as Rousay, Sanday, and some other islands. Taking it for granted that what applies to Orkney must apply with equal truth to Shetland, authors state that it remains during the winter in Shetland also. Occasionally, it is true, a stray bird appears for a day or two; but of the large flocks which arrive in September and October not one individual shows any disposition to stay longer than is necessary for the purpose of obtaining rest.

Sometimes, though very rarely, the Swans return northwards

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as early as the end of February, but the usual time is during the months of March and April. The flocks which arrive in spring are much smaller than those which pass southwards in autumn, even on the homeward flight. I have seen very large flocks, numbering from fifty to seventy birds. I have observed that in spring they often fly near the ground, sometimes within easy stone's throw. This is most natural, seeing that in spring the greater number arrive late in the evening, or very early in the morning, when there is but little stirring below; whereas in autumn they most frequently pass over in broad daylight, when the people are gathering in their harvest. This difference as to time seems to imply a certain definite range in their migrations. During flight they utter a soft, rather melancholy cry, resembling the words *who, who, who*, repeated many times in succession. On a calm spring evening, about twilight, or, as the Shetlanders say, "in the dim," these sounds have a strange—one might almost say, solemn effect.

The flight is performed with great swiftness, although, to all appearance, rather laboriously; indeed, the poor birds seem to be always ready to remain for a night upon the lochs. Strange stories are oftentold of the supposed perfect order of their flight, and of the regular system of relief which is said to be observed among the leaders. My own experience is comparatively small, but, so far as I have been able to ascertain, the flock really does occasionally assume the precise form of a wedge;* far more frequently, however, it has the appearance of a long irregular line. I never saw any other than a white, and therefore adult bird taking the lead. Every now and then, sometimes as often as twice or thrice in a minute, another passes to the front and becomes the leader; but this seems to be more a matter of fancy than of obedience to any fixed plan. Sometimes Hoopers commit the mistake of venturing upon the small frozen lochs in the hills, in which case, being not very well able to rise from the slippery surface, they have been

* Which after all merely implies two lines following one leader, each bird keeping a clear look-out ahead of him.—ED.

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knocked down with sticks or caught by dogs; the latter, however, would speedily be compelled to quit their hold were not prompt assistance at hand.

So far as I am aware, Hoopers always rise head to wind; thus one can often obtain a fair shot from the land by running in from the windward side and waiting until they pass overhead. This method will often answer even when they are sitting far out of shot from the shore, for they rise so heavily that only a very slight elevation is attained by the time the first fifty or sixty yards have been traversed. For similar reasons, sailing down upon them before the wind affords a good chance; but an opportunity very seldom occurs, owing to their preference for the lochs. To give an instance. One morning early in May 1861 I saw a Hooper settle in the voe at Balta Sound, evidently a wounded bird. Two men pushed off in a boat, taking a gun with them, to secure it. The swan allowed them to come so near, approaching as they were to windward of it, that the men actually determined to *catch it with their hands!* However, they stupidly went round to leeward, and away flew the swan, none the worse for the attempt made to shoot it. In fact, this bird can almost never be made to fly down the wind when alarmed.

The Hooper is a most remarkably powerful swimmer. One November day, when a heavy gale was blowing from the S.S.W., I remember seeing three Hoopers, two old ones and a young one, swim right out in the very teeth of it with great rapidity. Since the passing of the Gun Licence Act, the number of this bird's persecutors has undergone a considerable diminution, but there are still sufficient licensed shooters to make its short sojourn with us anything but a peaceful one. It is a slight consolation, however, to know that on an average not one shot in twenty is successful. The extraordinary misses one occasionally sees are something marvellous; but of course a large allowance must be made for old muskets and blasting powder. A few years ago, a man observing two Hoopers in the loch of Cliff early one morning, succeeded in creeping up to a convenient stone within the distance of forty yards. Observing that they sat motionless

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within a few feet of one another, and being fully aware how seldom a ball from his gun took the precise course intended, he resolved to aim exactly between them, and thus make sure of one. For once his aim proved accurate, and the birds flew off untouched. Some fine opportunities of obtaining a good shot are often missed through the inability, or perhaps the unwillingness, of the gun carrier to fire without a rest. Very few of the old "crack shots" are now living, but it is still amusing to hear them conclude their accounts of the numerous seals and swans they have killed (at a time, by the way, when the islands swarmed with both), with the most earnest exhortations to disregard fashion, and always use a flint gun, but *with a rest*, at the same time taking it as a matter of course that the usual average of from half a minute to a minute should be allowed for the process of taking aim. It is strange that, in spite of such training, those of the next generation who are bold enough to disregard paternal advice in these matters are among the best shots in the kingdom, though sore is the rebuke they occasionally receive for their "contemptible pride" in refusing to use a rest for the gun when opportunity offers.

Many of the Hoopers which are killed in Shetland are found to have the webs of the feet artificially notched and bored. This is said to be the method of marking them in Iceland, where this species is kept in a half domesticated state. An egg of the Hooper, brought from Iceland a few years ago, is equally rounded at both ends, and of a dingy white, faintly tinged with green; the length exactly four inches, the breadth two inches and ten lines.

I am not quite sure that the tarsi and feet are ever perfectly and uniformly black, although they become so very soon after death. In all newly-killed examples which I have examined, the sides of the tarsi and edges of the toes were very dark olive brown; the claws blackish grey, the claw of the hind toe nearly white at the tip. The black on the sides of the bill joins the yellow abruptly, but where it partly surrounds the bare yellow spot on the forehead it is distributed in the form of small dots.

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The one solitary instance which has come to my knowledge of an attempt to domesticate the Hooper was communicated to me by the members of a fisherman's family in the island of Yell, while the good man was preparing his boat previously to taking me across the water. It appears that very early one morning in autumn, on looking out of his cottage door, he observed one of three Swans, feeding in a shallow burn upon the shore, leisurely walk into the short covered drain which passed under the road. Accompanied by his boy, he crept near with sufficient caution not to disturb the two outside, and then, rushing to one mouth of the drain while his son guarded the other, succeeded after some trouble in capturing the unfortunate bird. Being unwilling to kill it, and thinking that it might perhaps improve the breed of his geese, he cut the wings, and shut it up in the byre. It was kept plentifully supplied with water, of which it drank eagerly, but no temptation would induce it to take any more substantial food until the third day, from which time no further difficulty in the matter was experienced. In about a fortnight it had become so tame that it was allowed to wander within the enclosure; and soon afterwards, it having become very gentle and familiar, no further restraint appeared necessary, and it was permitted to go where it pleased. It associated freely with the tame geese, but the two species never agreed well, and the Swan was often seen with lowered bill and waving wings in full pursuit of some offending member of the flock. It spent a great deal of its time floating upon the sea or wandering up the burns, but never more would it venture into the drain which had been the scene of its capture. What it fed upon at these times was never ascertained, but it was very fond of grain, boiled potatoes, cabbage, or turnips; yet to all these it preferred oatmeal porridge, especially when, in times of plenty, a little whey or butter-milk could be also spared. It was extremely cleanly in its habits, nearly always going down to the sea or to the burn after a meal, and there spending a considerable time in swimming and washing its plumage. After a while it learnt to understand and to wait for its call to food, to which

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it would hurry with eagerness; but it refused to respond for several weeks after having once been disappointed. It was remarkably attached to one of the elder boys, by whom it was treated with more than ordinary kindness, but who, poor fellow, doubtless thought that a friendship might occasionally prove too warm, when, on entering the kirk rather behind time one Sunday, he was horrified on making the discovery that his favourite had followed him to his seat.

Among the bird's few antipathies, the chief one was its dislike to bare feet, whether upon man, woman, or child, and upon such it would occasionally make serious attacks with its bill. Its own feet, it may here be observed, were not disfigured by any of the marks previously referred to, thus inducing the conclusion that it had not escaped from confinement. It also greatly disliked the colour of scarlet. This, however, was attributable to the fact that, soon after its capture, a woman, wishing to remove it from its corner, flung a scarlet petticoat over it, and while thus bewildered and entangled it was carried away.

It seldom ventured under a roof in the summer-time, but at other seasons it nearly always slept in the byre, in winter keeping near a pony which then occupied a corner, and to which the Swan gradually became strongly attached. Possibly the corn, of which the pony received an occasional allowance, was an attraction; but it is certain that the bird was always restless during the pony's absence, and always evinced unmistakable signs of joy on its return. It disliked extremes either of cold or heat, and hence it would never remain out in the snow; neither could it endure the warmth of the cottage fire. When a few days' hot weather chanced to occur, it usually betook itself to the sea, keeping under the shadow of the rocks as much as possible. Often in the months of autumn and early spring the families used to be awakened by its trumpeting cries; and although it was but seldom that with the utmost attention they could detect any response, they were certain soon afterwards to hear a flock passing overhead in full chorus. It was

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remarked that this never had the effect of causing the flock to alight.

During its period of captivity it had more than one narrow escape. Once it was observed to hasten towards the cottage, and then suddenly fall struggling upon the ground. It was soon discovered to be completely gagged, and nearly choked, by a large piece of a root. Upon another occasion it was found gasping and almost insensible in the corn-yard. In great affliction, its friends laid it upon some straw in its favourite corner of the byre, and there left it, as they thought, to die. Soon afterwards, however, it was observed quietly performing its toilet in the burn.

After about two years, it had become so tame that its wing feathers were permitted to grow;—a sad mistake, for one evening in spring, at which time the flocks were returning northwards, it disappeared, and was never seen more. At the conclusion of these particulars it was mentioned as a remarkable fact, that only the day previous to the Swan's disappearance a visitor had, while looking at it, strongly urged its owner to send it south, where he would be sure to receive a handsome price for it. On my asking my informant whether she seriously believed that the bird's departure was owing to its having heard what had passed, she merely shook her head and replied, "Weel, no just that; but wha can tell? It was odious sing'lar, at onyrate."

Some further particulars have probably escaped my memory, in consequence of my unwillingness to note them down at the time. An attempt to do so would have led to immediate silence, the Shetlanders having a great dislike to their words being transferred to writing,—possibly on account of the disagreeable recollections which it calls up of former visits of the procurator-fiscal to the neighbourhood, when investigating criminal cases.

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BEWICK'S SWAN.

Cygnus minor.

While not so common as the larger species, Bewick's Swan visits Shetland regularly every autumn and spring. In the former season it is occasionally seen in company with the Hooper; but, retiring northwards some weeks earlier, as a rule, those which appear in February and early in March are in unmixed flocks of their own kind. It is easily approached, and its flesh is acknowledged to be far superior in flavour to that of the Hooper; but its inferior size and weight cause it to be less valued by the inhabitants, who, being seldom able to procure fresh food, naturally prefer quantity to quality. It seems to be more partial to the sea than the other species; and often during a severe gale, when one might suppose that the shelter of the lochs would be eagerly sought, a small flock may be seen upon one of the voes, or the open bays, quietly floating upon the waves, facing the wind, and apparently determined to ride out the storm. They sometimes arrive very tired in rough weather, strong though they are of wing. In February 1861, after a very heavy southerly gale, a flock alighted at Haroldswick in such a state of exhaustion that when one of the birds was shot the others merely walked a little further into the shallow water of the loch. A second was killed by the device of driving a pony towards the water and creeping along on one side of it. The flock then took wing and proceeded on its journey northwards; not so much impressed perhaps with Shetland hospitality as some other visitors have been, however gladly they may have been welcomed to the larder.

In all recent specimens that I have seen the tarsi and feet were tinged with olive brown.

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THE SHIELDRAKE.

Tadorna vulpanser.

About the year 1810 an example of this handsomely-coloured bird was shot at Balta Sound, in a small pool in a cottage garden close to the sea. A second was killed in the very same pool about forty years afterwards; and in the spring of 1872 the skin of a third was sent to me from Balta Sound, but I was unable to ascertain precisely at what spot the bird had been procured. These three are the only recorded instances of its occurrence in Shetland; but it is more than probable that other instances have been suffered to pass unnoticed.

It is somewhat strange that, breeding as it does so abundantly in Orkney, it should be so very scarce but a few miles further north, where, upon many of the islands, it might remain with even less chance of disturbance, among the extensive rabbit links in which it delights. Possibly, if a few pairs were introduced and carefully protected, there might not be much difficulty in establishing a colony here and there, provided the birds were put down early in the breeding season, after having been pinioned to prevent their escape.

In his account of this bird, Colonel Hawker observes:—"You may keep young Burrough Ducks for five or six weeks, provided you give them crumbs of bread, and only a little water three times a day. But if you let them get into the water, or even drink too much before they are full grown, and fit to be turned out on your pond, you are almost sure to kill them. This appears quite a paradox with birds that in their wild state are always in the water. But such is the case."

In the above extract the fact has perhaps been overlooked that in the wild state the young, immediately after being hatched, resort to the sea, not to fresh water.

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THE PINTAIL DUCK.

Anas acuta.

The frequency with which the Longtailed Duck is termed "the Pintail" by those of the inhabitants who have access to works on natural history, has led to the supposition that the true Pintail is not only very abundant in Shetland, but remains upon the coasts during the whole winter. The contrary, however, is the case. A few small parties, seldom numbering more than half a dozen, visit us in spring; but, so far as I have been able to learn, the bird is never seen in Shetland either in autumn or winter. Its appearance seems to be due more to the force of circumstances than to choice. I cannot find among my notes more than one instance of its occurrence in fine weather; so deep, indeed, has become my impression as to this, that the Pintail is always associated in my imagination with storms of driving sleet or snow, and the surface of a loch torn into spray. Once only I met with an opportunity of observing the Pintail in fine weather, and that was one still Sunday evening about the middle of May. From my concealment among the willows at Halligarth I obtained an excellent view of two ducks and a drake, swimming about in the little fresh-water loch below the house. For a long time they continued busily groping in the mud and gravel, now and then desisting with one accord from their employment for a minute or more, and sitting with their heads upright and necks at full stretch, as if listening for the repetition of some sound which had aroused them. Gradually approaching my side of the loch, feeding all the time, they at length landed upon the coarse grass, and, after a little time spent in trimming their plumage, commenced a systematic attack upon the winged insects which their advance disturbed, but of what kind I could not ascertain. The easy and even graceful manner in which they effected their repeated captures was to me very surprising; they *ran* straight forward, rapidly and lightly, giving

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one quite a new idea of a duck ashore. They kept somewhat far apart, but all three happening to meet, the two ducks made a sudden and apparently unprovoked attack upon the drake, which at once made off for the loch. I was endeavouring to shift my position so as to obtain a better view, when a small stone in the loose wall against which my hand was resting happened to fall with a slight noise, and the two ducks, without even so much as looking round, rose instantly and flew to the sea, of course accompanied by the drake. Pintails seem to be fond of feeding upon the beach, and will often follow down the course of a burn as the tide recedes. At high water, the feeding-ground being covered, they come inland to the lochs with great regularity, though not so regularly returning, not having any means of knowing when the tide begins to fall. It is said, however, upon good authority, that some species of birds are possessed of a peculiar instinct which unerringly directs them in these movements. I have had comparatively few opportunities of ascertaining the nature of the food of these ducks, but have found in the stomach small shells, vegetable fibres, fine sea-weed, insects of various kinds, sand and coarse gravel—the sand always occurring in large quantities. The middle of April is the time at which they usually visit Shetland; but being early breeders, as dissection affords positive proof, they very seldom occur so late in the season as the middle of May. At that period the drake exhibits no sign of a commencing moult.

When winged, the Pintail will dive if the water be sufficiently deep; if otherwise, it makes for the land, upon which, by the help of the sound wing, it will run with considerable speed. When, after a shot has been fired, but one survivor remains, it will return again and again, sometimes alighting upon the water, whether the bodies of its companions have been left there or not. I have often observed its partiality for shelter in rough weather. About daylight one bitterly cold morning in April, as I entered an old fishing-booth to obtain refuge from the stinging sleet, I was met in the door-

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way by five Pintails, hurrying out in great alarm. Either curiosity or desire for shelter must have been the cause of their presence there, for the place contained nothing whatever in the form of food.

At all seasons the eye of the adult male is brownish orange; the sides of the bill, bluish lead colour; from front to tip a broad black line, barely including the nostrils; a black band at the base, narrowest at the part behind the nostril; tarsi and feet, lead colour; the webs and the upper surface of the toes tinged with brown; claws, dark brownish grey.

THE WILD DUCK.

Anas boschas.

Among the numerous beneficial results of the gun-tax we may reckon the already apparent increase in the number of the Wild Ducks, and especially of those which remain to breed. As the birds are difficult to approach at other times, the breeding season was frequently selected for the slaughter; and on the discovery of a nest it was without the least scruple that a greedy miscreant would kill the bird and then appropriate the eggs. I have even known the young, while still in a partially downy state, remorselessly carried off and made use of to flavour the day's broth. These ducks are seldom seen in large flocks, except in October, when on first arrival they gather together upon the lochs; soon, however, distributing themselves in small parties all over the islands, keeping to the lochs and burns during the day, but at night and early in the morning going up into the corn-fields and feeding upon the grain; often, too, they wander over the potato-fields, in order to pick up the numerous small potatoes which lie about the surface.

As soon as the frost sets in, small flocks visit the shores; I have only once seen as many as forty in salt-water. During the winter they are to be found at most of the burn mouths

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near the sea, and at low tides they are to be met with all along the coasts, close inshore, among the tall sea-weeds, where they are always very difficult to find. From their habit of rising almost perpendicularly from the water, one can almost make sure of a successful shot if once within range; the Mallard differing in this habit from most other ducks, which may have skimmed away far out of shot almost as soon as they are seen. As early as the 16th of March I have seen a drake with a few pale feathers about the head and neck, but I can scarcely suppose this to have been the commencement of the moult, for it is generally believed that the change of plumage never begins sooner than the end or middle of May.

Ten eggs are sometimes to be seen in a nest, but eight appears to be the usual number. These may be found in a fresh state from the middle of May to the end of June, in marshes, beside lochs or running water, and often on peat moors many hundred feet above the sea-level; but I never heard of a nest so situated that there was no water within a few yards distance. Upon the moors it is composed of heather, dry grass, and dead plants; while elsewhere, flags, rushes, and various other water-plants enter into its composition. A deep burn, with steep banks, running through a meadow is a very favourite situation, especially when a part of the bank, well covered with tall grass and weeds, happening to have slipped down, still remains with its surface above water. On a spot of this kind I once found a Wild Duck sitting upon seven eggs, and a few days afterwards, the heavy rains having caused the burn to rise, I returned, fully expecting to find the eggs submerged. To my surprise, however, the bird had evidently heightened the nest, and was quietly sitting upon her eggs, scarcely an inch above the surface, and barely hidden by the tall marsh Equisetum, which, while acting as a screen, also prevented the the nest from being washed away; for although it was built against the bank, it still required some further protection from the force of the stream. The latter having at length fallen, I observed that the nest was rather conspicuous from the

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opposite side, having been raised more than a foot above its original height. I therefore lowered it until it was once more snugly concealed, and about a week afterwards had the satisfaction of seeing the ingenious bird swimming about in company with the young brood. When suddenly discovered in a burn or a wide ditch, the young instantly dive, and at first merely raising the bill above water while taking breath, will again disappear, repeating the process as often as necessary, until they have got to a considerable distance, when, keeping close to the bank, they paddle rapidly away. The mother, on finding herself discovered, sinks her body very low, and, keeping the neck stretched along the water, slowly and without a sound threads her way among the water-weeds, following her young; if, however, one hastens after the young, the poor bird, throwing off all attempt to conceal herself, follows instantly, and with ruffled feathers and dragging wings endeavours by every means in her power to divert attention to herself, thereby sufficiently contradicting a theory entertained by some naturalists that the lameness of brooding birds is perfectly natural, being merely the consequence of sitting long in a constrained position, and that the reason why the same is not usually observed in birds which do not build upon the ground is that their only means of safety lies in flight. The conduct of these family parties varies according to situation. For example, early one morning in July I came rather suddenly near a female Wild Duck and two young ones, sitting among the stones at the edge of a good-sized loch. The young ones had apparently been hatched about three weeks or a month, and rushed off into the water with extraordinary speed, considering the broken nature of the ground. The old bird, fluttering and tumbling into the water, went splashing along with wings and feet, quite in a different direction, happening to be the one in which I was going, and I followed at leisure. When the young ones had proceeded about eighty yards from the land, they dived, and I saw them no more; but the old bird, after alternately flapping along the water, and, upon my approach,

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rising for about a yard from the surface, and flying steadily for a short distance, suddenly rose about ten feet, quacked loudly two or three times, and made a wide sweep back to the spot from which she had been disturbed.

The nest is seldom difficult to find, if you don't mind wet feet, and even if the eggs are covered, as they often are when the bird is absent, the pieces of flags and plants used to cover them will betray the spot as surely as the eggs themselves. I have observed that the Duck does not always lay bare the eggs before resuming her seat upon them. She is a brave defender of her home, and more than once by her loud cries has called me to inflict summary punishment upon a marauding Hoodie Crow. I have also seen her—though not in Shetland—keep at bay a Coot until her brood was safe, though I could not ascertain the cause of the attack made upon them.

The eggs are sometimes taken home and placed under a domestic hen, but two precautions require to be observed,—first, to leave no chinks or holes in the walls unstopped, the young of this species being more prone than others to squeeze themselves into awkward places from which they cannot be easily extricated; and secondly, after they are fully grown, to pinion them, in order that they may not fly off with others of their kind at the usual times of migration.

The Wild Duck is among the birds occasionally found by the lighthouse keepers on Flugga, lying dead at the foot of the lantern.

THE GARGANEY.

Anas querquedula.

Thomas Edmondston is so obviously mistaken in asserting this species to be "resident, breeding near lakes," that the statement barely requires comment. It is only fair, however, to suppose that he mistook the Wigeon for it, as he does not mention the well-known Wigeon as breeding in the islands. The Garganey is a rare bird in Shetland. In September I

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have three times seen it at Balta Sound, and shot it once, but can hear of no other instances of its having been observed.

THE TEAL.

Anas crecca.

Throughout the islands the Teal is tolerably numerous, though nowhere common, occurring chiefly in spring, in small parties, remaining for about a week or a fortnight, and pairing before departure. A few, however, remain to breed, but the nest has been much less frequently met with since a dealer offered high prices for eggs of all wild ducks except the common one. Though this evil still exists, a yet greater evil has been almost entirely put a stop to by the gun-tax already mentioned, inasmuch as the murder of the birds while breeding, or even while in charge of the young, can now occur but seldom. In Unst, however, which is rather thickly populated, the Teal has but little chance of hatching in peace; for, nesting as it invariably does in the immediate neighbourhood of fresh water, the drake, which does not entirely desert its mate, at least during the early period of incubation, is sure to be discovered sooner or later in the water, usually upon the side where the nest is concealed.

The Teal shows a decided preference for fresh water, seldom feeding upon the coast unless compelled to do so either by hard frosts or by man's persecution; in the latter case it is not so very ready to return again to its inland haunts. They feed among the rocks at ebb tide, but at high water either wander up the gravelly burns or sit patiently floating off at sea. In spring it is by no means unusual to meet with them swimming in deep water sheltered from the north winds by the steep rocks. Under such circumstances, exercising extreme caution, I have more than once been enabled to approach within a few yards of them; and in watching their pretty gambols, and marvelling at the ever-varying tints of plumage, I have

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each time resolved never more to shoot them—a resolve always faithfully adhered to until the next tempting shot occurred, when the too ready inquiry, "Why should a bird not be eaten because it happens to be pretty?" would rise as mechanically to the lips as the gun to the shoulder.

A male shot on the 5th of May had the bill black; the eye orange brown; tarsi and toes light olive brown, darker about the joints, and with indistinct yellowish stains; the membranes and claws nearly black. In a female killed on the 11th of April the upper mandible was brownish grey, the tip, including the unguis, black, gradually passing off towards the base in the form of minute dots; basal portion of the edges of the mandible, dull orange yellow; lower mandible of the latter colour, its tip black; eye dark brown; tarsi, feet, and claws brownish grey, the membranes darkest.

An excellent description of the young Teal in its downy state will be found in Mr Harting's "Birds of Middlesex," at p. 233.

About the begining of May the few pairs of Teal which intend to remain retire to the moors and peat bogs in the most secluded parts of Yell and the Mainland,* forming their nests either among coarse herbage or among the heather, always taking considerable pains to conceal them. They are composed of such materials as happen to be within easy reach, finer towards the inside, which is always lined with down. The number of eggs does not exceed ten. One, an average specimen, taken in the island of Hascosea in 1861, is of a rich spotless cream colour, and measures one inch ten lines in length by one inch five lines in breadth. When the young are surprised near water, they instantly plunge in and dive; but should their retreat be intercepted, they hide among the long grass or heather, where they are very difficult to find.

* In the island of Yell, lying between Unst and the Mainland, the thickness of the peat bogs on the high table-land is something extraordinary. The inhabitants say that in some places the bed of sound solid peat fit for fuel goes down as far as eighteen feet. I cannot vouch for the figures, but certainly I have nowhere in the north ever seen the like of it.—Ed.

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I have never observed the eggs to be covered in the birds' absence, but my opportunities of even seeing the nest have been few, nor can I obtain any enlightenment upon the subject from the natives. As soon as the young are strong upon the wing, they accompany the mother to the low grounds, where they hide in the deep burns, seldom venturing to show themselves upon the lochs until attracted to them by the arrival of the autumn birds. After having driven a Teal from her nest, I have twice seen her return, but that was only when the nature of the ground was unusually favourable for concealment; she flew directly back to the spot, alighting abruptly,—it seemed close in front of the nest. Once, in the twilight, when I crept up to a nest, the female uttered a very peculiar sound, resembling the low continued croaking of a frog, for perhaps half a minute before flying off. That it proceeded from the bird I am certain, the frog not being included in the Shetland fauna.

THE WIGEON.

Anas Penelope.

The Wigeon visits Shetland regularly in September and October on its way southwards, leaving a few small parties to remain during the winter, but returning in much greater numbers in spring. Probably a few breed every year, but it has so happened that I have only seen or heard of such instances in cold backward seasons. It seems not to occur in large flocks, more than about twenty birds seldom or never being seen. Adult males are always very scarce. I have received eggs from Yell, Unst, and Hascosea, and have no doubt that they are also found in the more unfrequented parts of the Mainland. The nest is placed just where it would be first looked for, in tall herbage near water. The first I saw was on Hermaness, in Unst, upon a piece of marshy ground. It was amongst some tall withered grass, and was rather large, and

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composed of coarse grass and dead plants, more carefully disposed towards the inside. The female was sitting upon seven eggs, which were lying upon a thick bed of down. One of these, now before me, is of a creamy white colour, not so purely and warmly tinted as that of the Teal; it is rather long in shape, measuring two inches and one line by one inch and six lines. Eggs from the same nest sometimes vary considerably in size.

The Wigeon breeds early. I have procured eggs on the 26th of April. Some, however, were sent to me from Yell, in a fresh state, as late as the end of May.

I have never yet seen young Wigeon, although I have most diligently sought and enquired for them; this, however, is doubtless rather owing to their scarcity than to any peculiarity in their habits. The males seem to disappear entirely as soon as incubation commences.

THE EIDER DUCK.

Somateria mollissima.

DUNTER.

From all accounts, the Eider Duck has undergone a marked diminution in numbers during the present century, but it is pleasant to be able to add from personal experience that during the last ten years the numbers, if not actually increased, have certainly not been diminishing, at least in the North Isles.* Of course it would be easy to point out certain localities where, though once sure to be met with at the proper seasons, it is now rarely seen, the old frequenters of those haunts having been shot down; yet the winter flocks continue of the average size, and in the breeding time numerous males, which are constantly observed swimming near the shores of the numerous islets, quite sufficiently indicate that the species is safe for some years to

* It may be as well to remark that the expression *North Isles*, frequently occurring in the book, is used in Shetland as the collective designation of Yell, Unst, and Fetlar, as distinguished from the Mainland.—Ed.

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come at least. In the winter, solitary birds or couples are distributed all round the coast, sometimes remaining by themselves, but usually joining the first flock they may happen to fall in with. These flocks vary in size, from five to eight birds being the usual number, though as many as a couple of dozen sometimes collect in spots favourable to their habits, such as quiet sandy bays or sheltered voes. They do not associate much with other species; I have seen them in company with the common Wild Duck, when, instead of flying off with them on the first alarm, they have remained until I was within less than a hundred yards. The Eider is not the easiest Duck to approach, but it is certainly not the most difficult. Sometimes it may be readily shot from a boat under sail in a moderate breeze; for, though it does occasionally take alarm rather soon, it usually rises on wing instead of diving, and thus affords a much better chance to the shooter. The large proportion of white in the plumage of the male makes him very conspicuous in calm weather, but in a breaking sea no bird is more difficult to distinguish, even at a short distance. I have never been able to satisfy myself that in a wild state the Eider resorts to vegetable food, under any circumstances. I have examined the stomachs at all seasons, and, with the exception of sand and gravel, have never found anything besides mollusca and crustacea of various species. The crabs, which are swallowed entire, are often of comparatively large size. One taken from the œsophagus, and quite whole, measured exactly two inches across the carapace. I have several times shot the young in its downy state in order to ascertain the nature of the food, which, after all that has been said and written upon the subject, is precisely similar to that of the adult. In skinning the Eider I have never experienced any difficulty in passing the head through the neck.* Almost

* On my earlier visit to Shetland, in 1853, the year before the lamented author first saw the future scene of his labours, I was discussing this very subject with the Scalloway boatmen in crossing the bay to Reawick, on the west coast. Finding that the work of bird-skinning was not very much to my liking, they assured me there were persons "down south" who were so skilled in the art as to be able to blow the bird right out of its skin by means of a tube

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every author describes the bill and feet of this bird differently; even Macgillivray has, I think, taken his description from the dried "skin and feathers" he so frequently ridicules. In the adult male killed in June I have always found the bill, as far as the front of the nostrils, ochre yellow, the remaining portion stained with grey, and the unguis pale yellowish horn colour; the eye brown, tarsi and feet light yellowish olive green; the membranes blackish; claws light brown.

The female at the same season has the bill, feet, and tarsi coloured in nearly the same manner, but much dingier, and with the yellow of the bill deadened with brownish olive green. A male in its first year, shot on the 20th of February, had those parts coloured as in the female, but in the general plumage the brown was not so rich and was smaller in quantity; the black marks, as a rule, closer set and smaller. The back was but slightly barred with black; cheeks, below and behind the eye, so closely marked as to appear almost of a uniform dingy black. Throat and front of neck without reddish brown, being merely an indistinct mottling of dirty white and blackish brown. No white upon the wings, but on the breast several new white feathers.

The tints of the female vary considerably, but it is probable that this circumstance has been much overrated by observers who have not taken sufficient pains to discriminate between the females and the first year's males. Having examined a great number of specimens, I feel convinced that the male does not acquire its full adult plumage sooner than the fourth summer. Even during the first summer, when the young males have a considerable amount of white in their plumage, they are often mistaken for wandering females; and have doubtless, when seen in small numbers accompanying old males, given rise to or confirmed the erroneous supposition that these latter are polygamous.

inserted at the throat, the forcible introduction of air between the skin and the body completely detaching the one from the other all round! And the good fellows believed it too.—ED.

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As the middle of March approaches, the flocks break up, and pairing begins, but it is not until some six or eight weeks afterwards that laying takes place, a peculiarity which I have remarked in all *Anatidæ*, wild or domestic, whose habits during the breeding season I have had opportunities of observing. At that time the male almost entirely deserts his mate; but I have not either seen him visiting the nest or known an instance of his supplying his own down when from any cause that of the female became deficient; but this may be from want of opportunity, both circumstances having been recorded on what appears to be good authority. Possibly these habits may have been noticed only where the birds are numerous, and are living in a state of semi-domestication, as, for instance, in Iceland. I have, however, seen both male and female near a nest which was in process of construction. From the commencement of incubation, which I believe lasts about four weeks, to the time when the young are led to the water, the male is constantly in sight, either swimming about in a listless manner, or sleeping upon the outlying rocks; but after all he does not seem to take very cordially to the young, and indeed he is comparatively seldom seen near them.

The favourite nesting-places are the little islands or holms, those which are flat and well covered with rank herbage being preferred, though the nest is sometimes placed among large stones. Gentle heathery slopes near the sea are, however, by no means despised. Upon slopes of this kind I have found nests fully two hundred yards from the sea—the nearest water. I have also seen nests on the hills several hundred feet above the sea-level, but always near water. In the latter case the young are not taken to the sea immediately after they are hatched, but are allowed time to gather some strength previously. This scarcely bears out the idea that the mother carries them to the water one by one in her bill, as some assert, a fact which I have always doubted, never having heard any other than untrustworthy persons affirm that they had actually seen the performance. Indeed, any one who is acquainted with the habits of the Black-

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backed and Herring Gulls will readily agree that the Eider Duck is far too wise to leave first the birds in the nest and then those in the water alternately to their tender mercies, unconsciously illustrating the celebrated fable of the Fox, the Goose, and the basket of corn. Even when the young brood are directly under the eye of the mother, the gulls are always upon the watch, endeavouring by their cries and threatening gestures to compel them to separate, yet too cowardly to approach their equally watchful guardian, who, with ruffled feathers, open beak, and repeated angry rushes through the water, in truth contrives to give herself a very formidable appearance. It is said, and I believe justly, that the otter is the greatest enemy the young have to fear, but now it is on a fair way to extermination, by means of guns, and by the far more destructive traps.* When alarmed, the young make directly for the open sea; and by means of alternate diving and swimming, soon leave the land far behind. The nest is not easily found when searched for, the discovery usually being made through the assistance of the bird itself, which flies off rapidly when surprised, although she will creep away among the heather or long grass like a snake when she becomes aware of the intruder's approach some time previously. Now and then, in ascending a slope with my back towards the sea, I have seen the bird's head against the sky, just peeping above the heather; then it would suddenly be withdrawn, and on my hastening to the spot nothing could be seen there but the nest and eggs, and presently the bird would be swimming in the sea a couple of hundred yards off.

The nest is substantial, made of dry grass or heather, sometimes of both; often a little moss is added, or dry sea-weed

* In Shetland the Otter is almost entirely marine in its habits, there being no fresh-water stream of any magnitude. These *Sea Otters*, as they are commonly called, are so large and vigorous as to almost deserve classification as a local race of our familiar *L. vulgaris*. I have never stalked either bird or beast that so completely gives the impression of having all its wits about it, and needing all one's own to circumvent it,—not that mine have ever sufficed to that end.—Ed.

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if the spot be not far from the beach. The lining of down is not begun until the whole, or nearly the whole number of eggs has been laid; but with regard to its quantity, properties, and numerous particulars concerning its uses, so much has been written that only two remarks upon the subject need be made here;—first, that I have only upon four occasions chanced to see the eggs entirely covered; and secondly, that, let folk say what they will, the down plucked from a dead bird is of as good quality as that from the nest. To confirm my own belief in this matter, I brought some down from a dead bird to a reputed excellent judge, who had had great experience in Faroe as well as in Shetland. On my mentioning the source from which it had been procured, it was tossed aside almost instantly as being harsh, inelastic, and good for nothing. Some days afterwards I brought him the very same down, leading him to believe that it was fresh from the nest. This sample was pronounced perfect, and I was repeatedly enjoined to admire its softness and elasticity, and the absence of that "peculiar *harshness* so noticeable in the other." Having satisfied myself, I did not undeceive my informant, content with retaining my former belief that the thing was originally a mere invention of dishonest dealers, who thus have a ready means of undervaluing even the very best parcels of down.

Fresh eggs are often found from the middle of May until the middle of July. In these islands, where the Eider does not breed in colonies, and where two nests are rarely placed near the same spot, more than five eggs are seldom found—never, indeed, as far as I can ascertain from reliable sources. In some of the eggs the greyish green surface is distinctly but irregularly stained with darker green, not clouded as in the case of the Grebes and of some other species which deposit their eggs upon moist decaying plants. It would be difficult to prove that anything in the dry nest of the Eider could have caused such stains.

The eggs when perfectly fresh are sometimes carefully removed and placed under domestic poultry, and the duck-

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lings thrive well upon the usual food of their foster parent, but they always greatly enjoy a meal of small periwinkles or young crabs. It would have been highly instructive to have watched the gradual changes of plumage, and the progress made towards thorough domestication from time to time, but I could not get people to interest themselves in rearing them for me. Any which escaped the almost inevitable pot in the winter were allowed to stray away in the spring, the novelty of having tame "Dunters" soon ceasing to be cared for.

THE KING DUCK.

Somateria spectabilis.

The occurrence of this species in Orkney has doubtless led to the conclusion that it is also an occasional visitor to Shetland, and accordingly erroneous statements to that effect have been frequently repeated. Although constantly upon the watch for many years, I have never obtained a glimpse of it, nor can I meet with any person who has shot it, or even seen it. Thomas Edmondston, without giving either date or authority, says ("Zool." 1844, p. 463) that it is "sometimes seen." Also in the "Zoologist" for 1848, p. 2188, one is recorded by Mr Dunn as occurring at Wensdale Voe, near Hoy, Shetland, on the 20th May 1846; but this statement is scarcely sufficient. There is the well-known island called Hoy, in Orkney, and possibly a voe near it bearing the above name, but though there is a *Weesdale* Voe in Shetland, there is neither a *Wensdale* Voe nor is there a Hoy. I am very doubtful, therefore, whether the King Duck has any right to a place in this work; but I allow it to remain for the present, being unwilling to remove it from the list simply upon my own responsibility, observing Shetland so often referred to by our best ornithologists as a locality.

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H.L.S. del!

M & N Hanhart lith

HAROLDSWICK FROM THE KEEN. SAXAFORD IN THE DISTANCE

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THE VELVET SCOTER.

Oidemia fusca.

This is merely an occasional winter visitor, although common in Orkney, to which we are probably indebted for the few which visit us after southerly gales. I have seen it but seldom, and never obtained more than one specimen.

THE COMMON SCOTER.

Oidemia nigra.

The Common or Black Scoter is another occasional winter visitor, more frequently seen upon the west coast of the Mainland than in the North Isles, and then only in very small numbers. I have observed it in Unst as late as the middle of May, but there is no reason for supposing that it breeds in any part of Shetland. It is very shy, and almost unapproachable openly; the only chance of getting a shot at it being when it is diving near a rocky shore. On procuring my first specimen, a female, in November 1860, I was much at a loss to determine its species, neither Yarrell nor Macgillivray enabling me to identify it. The following short description was entered in my note-book at the time :—

Length, 18 inches; wing, from flexure to tip, 8½; bill, ⅞; tarsus, 1½; middle toe and its claw, 2.

Bill dark greenish horn colour; the nostrils orange. *Eye* brown. *Head* (as low as a short distance below the eyes) and upper part of back of neck, dusky brown; the lore lightest, and top of head much the darkest. Chin, throat, and remainder of head white, sprinkled with brownish grey. Lower part of front of neck and upper part of breast, dusky brown. The whole upper surface of the wings and body, dark dusky brown, tinged with olive in many parts; the wings are rather the darkest, and the inner webs of the primaries dirty white. Tail,

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rusty brown. Lower part of breast, white, mottled with pale brownish grey, gradually becoming browner towards the under tail coverts, which are dark rusty brown. Tarsi and toes olive green; membranes and claws black. The peculiar trachea of the Scoter is precisely as in the excellent figure in Yarrell.

[*Obs.*—No place is given in the MS. to the Surf Scoter (*O. perspicillata*). In Mr Gray's "Birds of the West of Scotland" allusion is made to a statement of Mr J. H. Dunn purporting that in an excursion upon Rona's Voe, in Shetland, in June 1847, he several times saw an adult male of the species. I can find no other trace of support to the assertion of several authors, as quoted by Yarrell, that this bird occurs in Shetland.—Ed.]

THE POCHARD.

Fuligula ferina.

The Pochard is another winter visitor, coming in small flocks, but its appearance is very uncertain. A few also return in spring, but apparently only for the purpose of resting upon their way; for they often arrive in the evening and leave early next morning, and this happens in the roughest as well as the finest weather. They are extremely shy, and for this reason seldom alight upon the lochs in the daytime, preferring the wide sheltered bays, and keeping far out of shot from the shore.

One October day I saw the first arrived flock of Pochards, seven in number, flying up and down the voe, and at last marked them down in a small sandy bay near Hunie, where I watched them for a long time, showing off their strange habit of fluttering along the surface of the water, and splashing it about with their wings. When in flight they may at once be recognised, even at a long distance, by their light-coloured bodies and dark heads and wings.

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THE SCAUP DUCK.

Fuligula marila.

It is not easy to determine the exact times of the arrival and departure of this species. From October to April one or two appear suddenly upon some particular part of the coast, and often as suddenly withdraw; yet they not unfrequently remain in some favourable locality for several weeks at a time. Deep quiet voes are very attractive, and there is perhaps scarcely one such voe in Shetland that is not visited at least once in a season, even though by very small numbers at a time. The largest number I ever saw in one day was five, and they kept far apart. Balta Sound in Unst, and Basta Voe in Yell, each running inland for about three miles and abounding with various mollusca, are perhaps as frequently visited by the oceanic ducks as any similar localities throughout the islands.

No species of Duck with which I am acquainted is so easily approached while feeding as the Scaup. Sometimes, in shooting other birds, one has to resort to the well-known plan of running while they are diving, and crouching before they rise to the surface; though their sight is too keen not to perceive the danger instantly if there be not sufficient means of concealment at hand. The Scaup, however, is not so suspicious, and will even permit a boat to approach within forty yards before it will take wing, provided the occupants lay in their oars, and hide as much of themselves as possible below the gunwale. I have not yet observed it in fresh water.

The Scaup does not breed in any part of Shetland, although couples are not unfrequently seen in May, and solitary individuals even in the middle of June; but judging from Mr Wolley's account it must be a late breeder.

I have often seen in this Duck the curious habit noticed by that admirable observer Colonel Montagu. The bird will half stand in the water and thrust its head forward, with the bill widely open--- sometimes, for a variation, bending the head

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down towards the breast—with a rapid jerking motion. Altogether, the Scaup is a bird of strongly-marked individualities.

THE TUFTED DUCK.

Fuligula cristata.

This is another rather uncertain winter visitor, arriving at irregular intervals soon after the commencement of autumn, and staying until spring, when the weather is not too severe for it to remain upon the lochs. Should these become frozen, it resorts to the sea-coast; where, however, it will not wait long, taking a final leave of the islands if the frost continue more than a week. It apparently submits to a marine diet simply as a makeshift, for it eagerly returns to the lochs as soon as the ice begins to disappear. It is never common, but is perhaps somewhat overlooked on account of its mingling with the flocks of Golden-eyes which frequent the larger inland waters. Sometimes a single individual is the sole occupant of a retired inland loch for weeks at a time. All that I have examined have had insects and larvæ in the stomach, but twice I have discovered fish spawn in considerable quantities. It is so very shy that it is scarcely ever shot. When wounded, or surprised in deep water, it instantly dives, and by the aid of the wings it makes very rapid progress beneath the surface. Sometimes a wounded bird disappears in a very mysterious manner. According to the popular belief, it clings to the bottom and dies there; but before this idea can be accepted as a fact, it must be proved that the bird is really dead, bearing in mind that it is capable of remaining out of sight for hours at a time by merely raising the bill above the surface as often as is requisite for the obtaining a fresh supply of air.

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THE LONG-TAILED DUCK.

Fuligula glacialis.

CALLOO.

With the exception of the Mallard, the Long-tailed Duck is by far the commonest of all the *Anatidæ* which visit Shetland; and to those eyes which can recognise beauty in the absence of gaudy colouring, it is certainly the most attractive in appearance.

It arrives regularly, in small flocks, late in September or early in October, remains throughout the winter upon all parts of the coast, never resorting to fresh water, and about the middle of March begins pairing and making ready for its northward flight, which, however, does not take place until the second week in April; even then it is very unusual indeed for the whole to leave. In Unst at least I have seldom failed in my search for a pair or two. I have received eggs from a person who has made several tours in these islands, and who has assured me that he took them during one of his excursions. They certainly agree very closely with both figures and descriptions of the eggs of the Long-tailed Duck, but my own most careful observations seem to forbid the idea that it breeds here. The only other case in which the eggs have probably been found in Shetland is thus recorded in the *Ibis* by Mr A. G. More, in his very useful and accurate account of the "Distribution of Birds in Great Britain during the Nesting Season":—

"In 1848 two eggs were given to the late Mr John Wolley in Shetland as those of the "Calloo Duck" (the local name for *Harelda glacialis*), with a positive assurance that they had been taken on a low holm in that group of islands. So far as can be determined from their appearance, there is nothing to cast a doubt on the accuracy of the information; and as it came from a respectable and disinterested person, that gentleman believed it. I am, however, not aware of any corroboration

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of the statement, and the breeding of the Long-tailed Duck in Shetland is probably a rare occurrence."

For some weeks after the Long-tailed Ducks have arrived they avoid approaching the shore except early in the morning, when an early riser who knows their feeding-grounds may often succeed in procuring one or more, provided he take sufficient care to conceal himself. As winter approaches, they seem more inclined to follow up the deep voes and inlets; but by that time they have become very shy, there being at least one gunner in almost every favourite haunt of theirs, who contrives in a very few days to teach them thoroughly how to recognise their common enemy, both ashore and afloat.

By the middle of April the numbers have become much thinned, but I have satisfied myself that those which linger on into May are nearly all young birds, waiting to complete their full plumage, which is attained by the end of that month. The birds which depart earlier seem in no great hurry to reach home: nearly a week after they have left the coast, when the weather is calm, I have seen scattered pairs a couple of miles off the shore, sporting and chasing one another over the smooth surface, as if in complete forgetfulness of the duties before them. Sailors inform me that in the month of April they see them forty or fifty miles north of the nearest land, behaving in precisely the same manner, and add that the birds are "just playing their way home." This state of matters, however, can scarcely be supposed to last very long, for, good divers though they undoubtedly are, they would wait long for their dinner if they had to catch it at the depth of eighty or ninety fathoms, even if they knew the exact whereabouts of the fishing banks. This species seems to pay but little heed to the weather, but the number in the voes nearly always undergoes an increase when a heavy sea prevails outside, preventing them from feeding close to the rocks. When at such times the wind is sufficiently heavy to render also their feeding grounds within the voes unsafe or inconvenient, they appear completely nonplussed, sitting in groups upon the tossing

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waves, facing the wind, and after drifting a hundred yards or so to leeward, all taking wing together, and with low but vigorous flight making up their lost distance, only to repeat the process again and again as often as necessary. Under these circumstances they are not easily driven away, even by frequent shots; but once, while storm-stayed at Mid Yell, I saw a large flock fly off, in great haste, on a grampus suddenly making its appearance at no great distance. They flew much farther than usual, and instead of alighting in good order and sitting facing the wind, they swam about anxiously in all directions, as if greatly alarmed. Whether the monster was in chase of them or not I cannot say, but on its reappearance within a hundred yards of them, they took wing with one accord, and flew completely away from the voe. They are said, and with some truth, to go seawards at night when the weather is fine, but when a gale was blowing in winter I have seen them, as darkness approached, assemble under the lee of the rocks, a proceeding scarcely ever ventured upon in the daytime.

The peculiar form of the trachea in the male is well known, but the idea that both sexes have the same cry is decidedly erroneous. The characteristic note, uttered by the male alone, and from which the species has been variously named, is difficult to put into words. In Shetland the name "Calloo" has been fixed upon, the cry being not unlike the words "*Cal, cal, callo!*" uttered in a distinct but gentle tone: that, however, referred to by Mr Gray in his "Birds of the West of Scotland" (p. 389),—"*Our, o, u, ah!*" conveys as accurate an idea of the sound as can be given by words. This cry, uttered by all the males of the flock, may be heard at all times and in every weather, be the birds sitting or be they flying. It is often said to be heard most frequently in still frosty weather; another error which any one may disprove who cares to venture near them at all times. The mistake, however, is a natural one; even a very slight breeze completely drowns their voices, and when after a long succession of gales a calm day appears, and the cry is once more heard from the shore, it is by no means

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unusual to hear the remark :—" Ah, the fine weather is come again ; hark how the Calloos are singing !" It is difficult to determine whether the cry is one of alarm or of pleasure. It may be heard as well when they fly off after a shot has been fired as when they are peaceably enjoying themselves, unconscious of the near vicinity of a listener; it is also constantly uttered by the male at pairing time, as he swims bowing round his mate. One calm day in December the chorus of many voices was perfectly bewildering, as, rowing sharply round the point, I came unexpectedly upon a flock numbering upwards of a hundred, more than half of them males, as is nearly always the case with this species, whether the flocks be large or small.

In Shetland I have never observed the Long-tailed Ducks on land, nor have I ever heard of their diving for food upon a sandy or muddy bottom, or in very deep water. The most attractive spots of all are low ledges or groups of rocks, lying but a few feet beneath the surface at low water, and swarming with the minute periwinkles on which they seem to entirely subsist. It is singular that I have never yet found any other kind of food in the stomach, although I have examined some scores; and yet our very best authorities state that this bird feeds largely upon bivalves. The latter, of numerous species, are abundant in many parts of Shetland, but the Calloos perhaps consider them less worth the trouble of procuring than the univalves which so immeasurably exceed them in quantity.

The scarcity of these Ducks in certain winters used to puzzle me greatly, until the fishermen explained the reason, which I afterwards proved to be correct. It appears that, with a very proper feeling, readily to be understood by those who know the two birds, the Ducks never like to associate with the Shag or Green Cormorant, and, indeed, entertain a strong antipathy to it; so that when sillacks, the young of the coalfish (*Merlangus carbonarius*) chance to be unusually abundant in the voes, the Shags, assembling in great numbers, completely scare away the Ducks.

Long-tailed Ducks are often procured by lying in wait among

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the rocks near some well-known feeding-place; but if once their suspicions are aroused, success is almost hopeless. They will not always abandon the spot, but they keep a constant watch upon it all the time they are above the surface. I have waited with the gun cocked and resting upon a rock until I thought the bird upon which my mind was set had surely forgotten me, but it has invariably dived before the shot could reach. They nearly always dive when fired at, and take wing immediately upon their reappearance; but even when one is perfectly sure of the spot at which they will rise, to row towards it is almost useless, so rapidly do they propel themselves through the water with the double assistance of wings and feet. Sometimes in a chopping sea they will allow a rowing boat to near them within twenty yards, but to attempt to approach them within a hundred in such a manner when the sea is calm and every stroke of the oars can be heard at ten times the distance, is merely to throw away labour. When a mile off the land, I have often shot at one sitting (a chance of a flying shot seldom occurs), when it has dived instantly and not reappeared, although every pair of eyes in the boat has been eagerly on the watch. "Got hold of the bottom and drownded hisself," is always the consolatory verdict. When alarmed by a boat or by a distant shot, they take wing without diving previously; but as they usually allow a sailing boat to run pretty close up when the breeze is fresh, a good cross shot may then be obtained, as they rise head to wind

It is very evident that in describing the Long-tailed Duck, authors, copying from one another, or from the examination of stuffed skins, have fallen into error regarding the eye and "bare parts," however good their descriptions of the plumage may be. Macgillivray says of the adult male in winter.—"The basal half of the bill is black, the rest orange-red, but with the unguis black; the iris red; the tarsi and toes dull yellow; the membranes dusky; the claws black."

My own notes, which I am sure all who have handled recent specimens of this duck will be able to confirm, give a somewhat different account.

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Adult male, winter and summer—bill black as far as nostrils; the nail black; band across the intervening space, pale rose colour; eye amber; tarsi and toes, dark lead colour, darker still upon the joints; membranes and claws nearly black.

Adult female, winter and summer—bill deep dusky brown, with slight indications of a paler band; eye brownish yellow; tarsi and feet as in adult male, but dingier.

Male in first winter, similar to adult female in bill, tarsi, and feet, but with the eye brown. Early in spring the band on the bill begins to change rapidly to brownish pink, and the eye becomes yellowish brown. Perfect plumage is attained by the end of May.

The rose colour of the bill begins to fade as early as twelve hours after death, and at the end of a week (supposing the skin to be in process of drying) it is bright brownish red; afterwards it becomes pale reddish brown, and lastly pale brown.

When on the wing, the drakes may be easily distinguished at a distance by their white heads, and when nearer by their great length of tail; the Calloo is, however, not a bird given to flying very high. In the water, the bird sits in the manner common to most Ducks, that is, with the neck slightly contracted and the head thrown a little back; but the males—especially when alarmed—have a habit of raising the tail rather high, in the same way that a Magpie does when walking over wet grass. In diving to feed, they will stay under water for about fifty-five seconds on an average, when not apprehensive of danger; otherwise the time of submergence is much shorter.

I have often noticed the œsophageal glands in this species as both numerous and large, many of them being about the size of a split pea. The magnitude of the cutaneous veins is also somewhat remarkable, and the pulmonary vessels are large.

On one occasion in December 1868 a Calloo was brought to me from the bay of Hagdale in a very peculiar state of plumage, having a few large black spots upon the breast.

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THE GOLDEN-EYE.

Fuligula clangula.

DIVING DUCK.

This is another common winter visitor, making its first appearance in October, and remaining until the middle of April, when, others coming northwards, all take their homeward flight together. Some stay much later, but these, it would seem, very rarely breed. Thomas Edmondston says "it appears to breed here," and I am able to confirm his suspicion, having at the end of July seen a female and four young birds upon the loch of Belmont, from which locality eggs have been brought to me closely resembling the specimen figured by Mr Hewitson. Large flocks continue upon that piece of water during the whole winter; and although for the last few summers none of the birds have remained, it is to be hoped that they will return to their former habit, now that more stringent regulations with regard to shooting and fishing there are in force. The Golden-eye does not wait for the frost to compel it to leave fresh water, but very often takes to the sea for choice, where it may be seen singly or in small flocks, but it is rarely that these exceed thirty individuals, and then indeed only during a frost of some severity. Far more frequently single birds are met with, and on sunny days it is very often to be seen quietly floating under the shelter of the rocks, with the head drawn back between the shoulders, in the full enjoyment of thorough repose.

Messrs Baikie and Heddle say—"The female chiefly frequents lochs and fresh water, while the male may oftener be observed in the sea." I have not remarked this in Shetland, but I think it will be found that, without any restriction as to age, the number of males in both cases always greatly exceeds that of females.

It flies quickly, but it is not a difficult bird to shoot on wing. If a wounded Golden-eye, still capable of diving, happens to fall into the water, it is in most cases lost; and to send a dog

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in after it is almost useless, as it will dive under his very jaws, and sooner or later it entirely disappears. I have had many opportunities of observing this habit, but never a better one than on a fine breezy October morning in 1864, up to which time I had often been in sore perplexity at the disappearance of Golden-eye or Tufted Duck beneath the surface, never to show itself again. At an early hour I noticed a couple of Golden-eyes in the small loch near the house, swimming rapidly and diving, and afterwards marked down one of them at the small mill-dam not far from the kirk. My brother-in-law went after it with the gun, and before long I received a pencilled scrap saying that he had winged it, but had no more ammunition. On my going to him, he told me that he had dropped the bird as it rose, that it dived, reappeared for a moment, dived again, and had been seen no more. Having reloaded, he watched on one side of the pool, and I on the other, setting Pirate to guard the mouths of the deep burns which supply the water. Half an hour passed, and still there was not so much as a feather to be seen. Resolved not to lose so favourable an opportunity for getting a clue to the fate of many a lost Duck, we raised the sluice and proceeded to drain the pool, one of us steadily watching the water as it flowed through, while the other wandered round the banks, keeping a good look-out on every side. The bird could not have escaped, neither could it have died without floating up, and that it had not risen since its second dive we both felt perfectly convinced; therefore, in our eagerness to unravel the mystery, we did not grudge the loss of the next two hours, when, the pool having become shallow and greatly reduced in size, we sent the dog in. Soon afterwards I observed a slight bubbling near the sluice, and guessing its cause, instantly ran down the stream towards the sea; but the Duck must have passed me while I was climbing the wall which crossed my path, for we soon afterwards discovered it flapping about in a shallow part of the stream a long way farther down. One wing was so much injured by the shot as to prevent flight, and although we naturally felt sorry for the poor bird, it was a

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matter of no small satisfaction to have ascertained, nearly beyond doubt, that the Golden-eye, like the Grebes and some other birds, eludes its enemies by entirely submerging every part except the bill,—for in that manner alone could it have so long escaped our search. No doubt many a well-worn story of a wounded bird drowning itself by holding on to the weeds at the bottom of the water may be thus accounted for.

There is, however, good reason to believe that the bird does occasionally thus hold on to the bottom weeds to escape detection. An instance of its being seen during the act of voluntary submergence came to my knowledge in October 1868, when a woman brought me alive a female Golden-eye which she had caught about one hour before in a burn which runs out of the loch of Quoyhouse.* Her attention was first attracted by a frequent splashing in the water, and by the eager behaviour of a dog which was running up and down the bank, evidently on the watch for something—a large fish, the woman imagined: hastening to the spot where it last disappeared, she indistinctly saw some dark object near the bottom of the channel, when—still supposing it to be a fish, for the ripple was very strong—she plunged in her hand, and to her surprise brought up a duck. On my questioning her, she told me that it held quite tightly to the weeds, and "came up feet foremost." From this, and also from the fact that the head was toward the upper part of the stream, there can be no doubt that the bird was holding by its bill, though whether in such case the bill was above the surface or not may be uncertain. The duck's plumage was so saturated with wet that it could not fly even when brought to me. This was probably, in the first instance, the effect of the extremely heavy rains; otherwise, not being wounded, it could easily have avoided the dog by taking wing. I washed it well, and put it into a box with dry straw, where it soon got itself to rights. When the bird was irritated or alarmed, it had a way of raising the feathers of the whole head, causing that part to appear disproportionately large.

* Pronounced as if spelt *Kews*.

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Upon the water, the old males of this species can be easily distinguished at any distance by the white upon the back.

THE SMEW.

Mergus albellus.

At the end of February 1870 a pair of Smews were seen upon the loch of Quoyhouse, in Unst, and the female was shot and brought to me. Never having heard of the occurrence of this duck in Shetland before, I was not a little surprised on being informed that birds of the same species were shot every winter in Lerwick harbour. On making diligent inquiries in that neighbourhood, I could not ascertain that such a bird had ever been seen there. My belief is, that my informant, being a far better sportsman than naturalist, had mistaken the Golden-eye for the Smew.

In Messrs Baikie and Heddle's catalogue of the birds of Orkney it is spoken of as quite rare; but Mr Gray states that in a manuscript note by one of the authors it is asserted to breed there.

THE RED-BREASTED MERGANSER.

Mergus serrator.

HERALD DUCK.

This very handsome and interesting species is abundant upon all parts of the coast throughout the year, although during the breeding season it is not so often observed. Thomas Edmondston says "a few pairs breed among the more sequestered islands;" but whatever may have been the case when he wrote (1843), there are now few parts of the coast, provided they be not rocky and precipitous, where there is not a chance of finding the nest at the proper season.

In autumn they gather into flocks for the winter, apparently

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receiving no reinforcements from other countries. As the winter advances these separate into smaller flocks, and these again by the middle or end of March have nearly all broken up into pairs, the small parties which are seen after that date being almost entirely composed of immature birds. At that time, and for some weeks afterwards, solitary males are often to be seen basking upon isolated rocks, or even upon a retired beach, apparently asleep in the sunshine. I have frequently known of their being surprised and shot under such circumstances. The habit is chiefly to be observed in quiet, calm summer mornings; but there is no season of the year at which I have not seen the drakes thus sleeping in the daytime. Mergansers occasionally visit the lochs, but much prefer the sea, rarely going far from land, and delighting in secluded voes or small quiet inlets, where they can fish among the rocks. Undisturbed, sometimes, in the eagerness of their search they will allow the tide to ebb away as they explore some unusually prolific stream; but they soon perceive their error, and make their way back with all haste. At such times, if a specimen be wanted, one may obtain a good shot by running between them and the sea, for which they are sure to make in a direct line, without rising higher than a few yards; but it should be borne in mind that a very few strokes of the wings will suffice to put them at full speed, to which of course they resort in peril so imminent. When Mergansers are feeding in water too shallow for diving, they are not very easily distinguished at a distance, owing to their habit of keeping the head almost constantly submerged, leaving nothing in sight but the back—a mark altogether inconspicuous among the numerous small seaweed covered rocks, just rising above the surface. I have seen one swimming round the rocks with its head and neck under water, searching for fish among the weeds, and on its discovering a fish at a depth it has dived instantly, without previously raising the head to take breath. After swallowing a fish, which is always first brought to the surface, the bird raises the fore part of its body, flaps its wings, and then takes a drink of salt water,

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raising its bill like a common fowl. In deep water the Merganser will remain below sufficiently long to enable a boat to sail up within shot, but it is very seldom that such a chance occurs, one bird or more being almost constantly in sight: not that I have any faith whatever in the popular belief as to a regular system of watching being kept up, each individual in turn acting as sentry. The fact is, that most of the flock dive and rise almost simultaneously, but as soon as one catches a fish it takes it to the surface, and, either by delaying to swallow it, or by finishing the process rapidly, and diving again before the reappearance of the flock, thus gives rise to confusion. The student of sea-birds in their native haunts will soon find that almost every species which is much given to diving has its characteristic way of taking the plunge. One bird, a Razorbill, for example, will give you the impression that it has been suddenly turned topsy-turvy and pulled straight down. Another, as the Black Guillemot, will make a sudden splash with its wings as it disappears. The Merganser dives by raising the body and plunging head foremost, and at a distance may readily be distinguished from the Shag, which dives in the same manner, by its far more graceful movement,—not to say by the snake-like neck and long narrow head.

When watching the Merganser diving I have observed that it invariably uses its wings as well as its feet; sometimes it descends quite to the bottom, stirring the weeds with its bill, and darting with astonishing speed after any small fish which may chance to show itself. In rising to the surface, its own buoyancy is quite sufficient; yet I have occasionally seen it give additional impetus to its ascent by means of its wings. The latter are always used when it is in mid-water examining the rocks, and in that case the hind part of the body is always highest. I have seen the bird in this position, just as in surface swimming, as above mentioned, suddenly dart to the bottom and seize a fish, the act being followed, as usual, by immediate ascent to the surface. In the Shetland seas, where the water is perfectly clear for the depth of several fathoms,

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excellent opportunities constantly occur for watching the habits of diving birds.

The Merganser is a very shy bird, but becomes considerably more confident when after heavy rains it wishes to proceed as far as the burn-mouths, where the trout are then numerous. I remember seeing one, after swimming as far as a trout-net which had been set across a narrow creek, fly neatly over the corks, and then continue to dive and swim towards the head of the large expanse of water beyond, into which numerous burns were running. There the poor bird received from a concealed gunner a shot which broke its wing, but even at that disadvantage it swam under water as far as the net, in which the onlookers fully expected it to become entangled, but, rising immediately in front, at about the middle of the buoy-line, it dived once more, and, so far from being flurried by the noise and stone-throwing which was going on in the rear, it deliberately avoided the net, either by creeping beneath or by passing out at the sides; so that when, some few minutes afterwards, its pursuer was about to haul up the net in triumph, his expected prize was swimming away, no longer diving, several hundred yards to seaward.

In a storm, when the surf is heavy upon the rocks, the Mergansers seek shelter in the voes, where they often gather into flocks of from twenty to thirty, but these break up almost immediately upon the return of calmer weather.

Laying begins about the middle of May, and continues until the middle or end of June. The latest fresh egg I have seen was taken on the 22d of August, but in that instance the nest had been robbed once already. The Merganser often makes its nest among long grass, but it seems to prefer something in the form of a roof; and thus it is that in suitable localities the eggs are most commonly found under rocks, in rabbit-burrows, and even in a crevice at the foundation of an old loose wall. Whatever be the situation chosen, the nest almost always consists of a hollow scraped in the ground, lined to a greater or less extent with down, feathers, dead plants, and with heather

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also, if there happen to be any growing near, the amount of material usually being increased as incubation proceeds. Now and then it happens that no attempt is made to line the nest until after the first few eggs have been deposited. I once found a nest—it was about five feet above the beach—among tangled masses of dead grass and coarse herbage. Sometimes, though rarely, the selected spot is beside a small hill loch in a sheltered depression, where the heather is long; but a very favourite situation is a hollow at the foot of a dry bank, where the long grass overhangs, and the tall flags grow close up. The number of eggs is from five to eight, but I have several times seen as many as ten. The rich reddish cream colour of the eggs is strongly tinged with green in some specimens, and these I have seen offered for sale as eggs of the Goosander.

As early as the end of April the male begins to assume a state of plumage resembling that of the female, the change commencing with the growth of a number of new feathers and the shedding of the old ones at the base of the bill. When in full winter plumage he has the edges of the eyelids reddish brown, the eye crimson, becoming brownish towards the pupil; the upper mandible of the bill dark reddish brown, the edges paler, and the tip also paler; the under mandible vermilion tinged with orange; inside of tarsus and toes bright orange-red,—the outsides of those parts tinged with purple, and dingier, and the webs dingier still; claws light greyish brown.

The eye and bill of the female are not so bright, and the tarsi and feet differ in being strongly tinged with dusky purplish brown.

In the end of August one of five young birds which were accompanying the mother was shot and sent to me. The only feathers apparent among the down were those of the scapulars and tail, and a few upon the sides. The eye was yellowish grey; the bill coloured similarly to that of an adult female: the tooth-like processes upon each edge of the upper mandible, about thirty in number, sharp and horny to the feel; those upon the lower mandible smaller, more numerous, and scarcely

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so hard; the general tints of the down much like those of the parents' feathers; wings without feathers, and extremely small; tarsi and toes pale brownish orange, large and strong; the membranes darker; claws light brown, paler at base.

The lovely tint of salmon-colour upon the breast of the male begins to fade soon after death, so that in stuffed skins there is no trace of it. So greatly does its absence remind me of an unfinished picture, that I consider it no more a deception to rub a little powdered colour upon the parts than to introduce glass eyes into the head, or to paint the bills and feet.

Once in the end of May I noticed at a house at Gudyer, in Yell, the feet and wings of a Merganser drake, and found upon inquiry that the people had lately dined off the body of it; but even they acknowledged that it was "vara fishy food."

THE GOOSANDER.

Mergus castor.

This species is well known in Orkney, where it is a regular winter visitor, but it is very rarely observed in Shetland. I have only seen it twice. On the one occasion I saw a solitary bird sitting quite inactive in deep water, about two or three hundred yards from the shore. On the other, there were five Goosanders upon a piece of wet sand at Balta. They flew away as the boat approached, rising rather high, and going directly southward, as if bent on a distant flight; nor did they show any signs of descending so long as they were in sight. As this occurred about the end of October, I concluded that they were on their way from the north, and had merely alighted upon the island for the purpose of resting themselves.

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THE GREAT CRESTED GREBE.

Podiceps cristatus.

The Great Crested Grebe does not occur in Messrs Baikie and Heddle's list of the birds of Orkney, but Thomas Edmondston mentions it as an occasional visitor to Shetland, where, however, I have seen it but once, viz., on the 14th of March 1871, when I obtained a rather distant view of a pair upon the loch of Watley. Hearing soon afterwards that one of them had been shot, I made enquiries, and found that the bird had been eaten, but as the feet were still lying about, it was easy to identify the species.

THE RED-NECKED GREBE.

Podiceps rubricollis.

I have in my possession a good drawing of this bird by Thomas Edmondston, with the name *Podiceps auritus* beneath, in his own handwriting, thus accounting for the presence of that species in his list, and the exclusion of the Red-necked Grebe. Proof is yet wanting that *P. auritus* ever occurs here, but the Red-necked Grebe occasionally appears in autumn and spring. In February 1861 a first year's female was washed ashore at Balta Sound; but I was unable to procure another specimen, the birds being both scarce and shy. I have seen them upon the lochs, but they seem to prefer salt water, keeping rather far from the shore. It was said to be not uncommon in Mid Yell voe about the beginning of spring, but on my asking for a specimen, I received a bird of the species next to be described.

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THE SCLAVONIAN GREBE.

Podiceps cornutus.

This is the commonest of the Grebes which visit these islands, but I had almost overlooked it until lately; its favourite haunts in the neighbourhood in which I resided being very seldom visited by me except in summer. It arrives, but in very small numbers, in October, leaves after a few days, and reappears about April, when it makes a longer stay of a few weeks. It is occasionally seen upon fresh water, but seems to prefer some quiet inlet of the sea, where it can dive undisturbed among the rocks and floating weeds, but for what purpose it is difficult to say, seeing that when the bird is shot after having been thus engaged for a considerable time, the stomach merely contains vegetable fibres, mud, sand, or feathers. In opening this bird, I have usually perceived a peculiar odour, resembling that of the bruised plant of *Iris fœtidissima*. It is very shy and watchful, and is capable of remaining submerged for more than a minute at a time. As it usually dives when threatened with danger, I was not a little surprised when, on one being fired at by a lad who was lying concealed among the rocks, it merely swam away from the spot, not diving until it had proceeded about sixty yards. I also was concealed at the time, and observed, by means of a telescope, that the bird did nothing more than start slightly and quicken its pace as the shot fell around it. On escaping a shot by diving, if the water be deep, it swims for a considerable distance beneath the surface, and on emerging either dives again or immediately takes wing. In shallow water, however, when the weeds interfere with its progress, it remains beneath but for a very short time, and then rises on wing.

Those which are seen in May—and they sometimes remain until the end of that month—are nearly always pairs, and then, instead of industriously diving among the shallow bays and inlets, they idle away their time in deep water. I have

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seen them swimming about the middle of the voe at Balta Sound for nearly a whole day without once showing any sign of searching for food. I have not had an opportunity of examining an adult male in winter; at that season, however, the female has the tip and the base of the bill pink, the rest black; the angle of the mouth, the base-line thence to the eye, and the edges of the eyelids, pink, tinged with vermilion. Eye of two colours,—a narrow ring surrounding the pupil white, the outer ring crimson. Tarsi upon their outside, and feet upon their underside, black; inside of tarsi and upper surface of feet, white, stained in some parts with indigo blue; the toes and the borders of the membranes with a few distinct black stains; claws white, tinged with blue, or entirely black, according to the colour of the toe at their base. The fishermen tell me that, late in spring, they meet with pairs of these birds far northward of Unst; in fact, in precisely similar circumstances to those under which the Long-tailed Duck is seen there, as I have already mentioned. There can be no error in this, the hood rendering the bird unmistakable.

THE LITTLE GREBE.

Podiceps minor.

Every winter a few stragglers occur; but it is quite probable that its singular habits cause it to appear more uncommon than it really is. It frequents the lochs and deep burns, but is equally fond of paddling and diving among the rocks as the tide is falling. So busily does it occupy itself in its explorations of the rocky pools, that not unfrequently it is left by the receding tide, and falls into the hands of the first passers-by. In attempting to escape, it pushes itself along upon its breast, and tries to assist itself with its wings, but never flies, although its powers of flight are now no longer a matter of speculation. If it be true that Grebes and Divers, having the legs placed very far behind, are incapable of raising themselves to an erect

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position, it is easy to understand why they cannot rise from the ground, the hind part of the body being elevated, and the fore part depressed; yet they rise from the water. This appears somewhat unaccountable; but it is at least a suggestive fact that in looking through my notes, collected during the last twenty years and upwards, I find no mention of a Grebe rising from the water without having immediately before ascended from beneath, and but one record of a Diver being seen to do so; yet both can, as it were, stand in the water while they shake their wings. It is easy to perceive how much more readily they can rise from the water than from hard ground; but the probability is, that they prefer rising immediately on coming to the surface, as saving a great amount of muscular exertion by utilising the impetus gained in ascending, after the manner of certain fish in making their leap.

THE GREAT NORTHERN DIVER.

Colymbus glacialis.

IMMER GOOSE (*at all ages*).

According to Messrs Baikie and Heddle, the Great Northern Diver is common in Orkney at all seasons in its immature state, old birds being more abundant in winter; I have not, however, heard whether the belief entertained by those gentlemen, that it breeds there, has yet been confirmed. With us it arrives during the month of September in considerable numbers, but a large proportion disappear about Christmas. In April and May they again become plentiful, but among the few which remain throughout the summer adults are rarely seen. In the winter months a few at least are constantly to be seen in almost every voe or bay, but I have not observed more than a dozen at one time, and that was an unusually large number. The Immer frequents also the whole line of seaboard, feeding close along the face of the deep rocks, and when the surf becomes too heavy for it there, going boldly seaward,

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or sometimes, if compelled by hunger, entering the voes. There it occasionally happens that the young coalfish have gathered in immense shoals, and in this case the Divers are in no hurry to return, continuing in the voe until the fish depart, and becoming so extremely fat as to be scarcely worth the trouble of preparing as specimens. Like all fish feeders, a Diver should be skinned as soon as possible, as it very soon spoils; but in all cases and at all times unusually large quantities of tow or cotton and plaster of Paris are required in order to prevent the escape of fluids.

Owing to the extreme watchfulness of this bird, and to its wonderful powers of diving, specimens are by no means easily obtained by a person who has not had considerable experience of its habits. The most favourable chance is when it is feeding under rocks which are sufficiently irregular to afford concealment to the shooter, who, it may be remarked, should in calm weather proceed very cautiously, or the bird will perceive him from an almost incredible depth, and, instead of rising near the anticipated spot, appear quietly swimming away far out of shot seaward. In smooth water, a boat and its moving shadow can be seen from beneath the surface of the water for a considerable distance, and hence the bird is most frequently *dodged* and shot during a breeze. The instant it perceives itself threatened with danger, it either sinks the body low in the water or entirely disappears, seldom emerging before it has traversed a distance of a hundred yards, or perhaps even five times that space, according to its idea of the extent of the danger. When once it has become thoroughly alarmed, further pursuit is generally hopeless, unless it happens to cross the track of the boat, as it will do occasionally, instead of proceeding in a line directly from it. When the bird chooses any other course than its favourite one, directly to windward, a boat under sail in a stiff breeze will sometimes overtake it, but such a chance is rarely met with. Before its habits were so well known to me as they now are, I used to pursue it in a four-oared boat, but always unsuccessfully; lately, however, I have been able to

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get within range with a single pair of oars, but with a boat more manageable than those of the ordinary kind. As the boat approaches at first, the Diver sinks the body very low,—so low, indeed, that the water covers the hollow of the neck; and the chances are, that when fired at it will escape by diving, unless the favourable moment be selected when the bird submerges the head, or turns it aside, or rises to flap its wings. I have once seen it take wing immediately on being shot at, and on many occasions after emerging from a dive taken to avoid a shot. At any time it rises with great difficulty, and in calm weather especially is very awkward, splashing along the surface with wings and feet for a hundred yards or more, the attempt, as often as not, resulting in a return to its more natural element. The mode in which this bird dives cannot be easily explained in words. I have watched it most carefully, but always with an unsatisfactory result; it merely gives a slight *start*, if my meaning may be so expressed, and disappears in an instant. When wounded in such a manner as to be disabled from diving, it is a very awkward bird to handle. It will allow a boat to run close up without displaying any sign of activity; but the moment a hand appears in reach, there is a sudden splash with wings and feet, and such a thrust is delivered with the sharp bill, that, if it take effect, it will probably interfere with the captor's shooting for some days afterwards. Its tenacity of life is very great, none of the usual means of killing specimen birds being sufficient; bending the head backwards upon the neck will always prove effectual, if the lower hand be kept as close as possible to the head, so as to firmly grasp the nearest vertebra; but the most speedy method of all is to insert a penknife between the first vertebra and the skull, taking care to cut the spinal cord completely across.

In order to form a just estimate of the enormous muscular power possessed by this bird, it is only needful to watch it when wounded and brought to land, at the same time taking the opportunity—not forgetting due precautions to avoid a stroke from the bill—of attempting to restrain its endeavours

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to return to the water. Mr Blake Knox states that when on the ground it can spring "the height of a man's head, merely by the aid of the feet." An instance of its strength in the water was related to me by a gentleman of my acquaintance, and also by a lad who was with him at the time the experiment was made. Having slightly wounded a Northern Diver, he and the lad managed to get it alive into the boat, and then by means of a piece of stout line they made it fast by one leg to the stem, and tossed it overboard. The poor bird instantly dived, and for many minutes steadily towed the boat seawards, remaining entirely submerged the whole time, except when it rose for a few seconds to breathe. During this extraordinary performance it made use of the wings as well as of the feet,—of course being able to use only one of the latter freely. The boat was thirteen feet in the keel, but light for its size, being, like all those used in Shetland, built of light Norway pine.

Dr A. Edmonston was perhaps the first in Shetland to discard the erroneous and absurd ideas which prevailed with regard to this species, and his example was immediately followed by other writers. In his account of it in the "View of the Zetland Islands" (vol ii. p. 248) he concludes by expressing his belief that it "can fly, but that it uses its wings only at particular seasons of the year." It has been seen upon wing at all seasons, but, so far as I have observed, very rarely at any other than spring. It then often flies to a great height, circling over land and water in an undecided sort of manner, at intervals uttering loud hoarse screams. At such times it may easily be known by its long thick neck, and by its short rapidly-beating wings. Indeed, one cannot but feel surprised at the doubts which still exist in some quarters as to its powers of flight. The wings being small, and placed far back, certainly give it a rather ungainly appearance in the air, but, for all that, the bird is able to fly vigorously and with considerable velocity. I have seen it on the wing in November flying up the voe at Balta Sound.

It is fond of searching for the sand launce, which frequent

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the small sheltered bays, and in pursuit of these it is said to be in the habit of ploughing up the sand with its bill, the worn appearance of the bill at the point, and the turbid state of the water when feeding is going on, seeming to warrant this supposition. Very slight movements of the sand would be enough to disturb the fish, and no deep insertion of the bill would be necessary; therefore the feathers at the base would scarcely be injured, as Mr Blake Knox suggests. That gentleman, in his excellent account of the *Colymbi*, states from his own observation that the Northern Diver turns upon its back to catch flatfish, thrusting the upper mandible beneath them. This of course would be one means among others of wearing away the point of the bill.

Its usual note bears considerable resemblance to the barking of a small dog; but upon a calm summer's evening I have heard it utter a long-drawn plaintive cry so strangely unlike any other known to me that I cannot even attempt to describe it. Upon the long-disputed subject of the capability of the Divers to sit erect, most observers confidently assert that they have seen it in that attitude. My own repeated disappointments have convinced me at least that a cormorant having the under parts white has invariably been the cause of such impression.*

There now appears to be substantial ground for the supposition that the Great Northern Diver occasionally breeds in Shetland. Some fifteen years ago I was much struck by the large size of a Diver's egg which was sent to me among other species from the island of Yell, and soon afterwards, upon my visiting the locality from which it was said to have been obtained, I saw a Northern Diver in the loch in perfect summer plumage. Although I made the most careful search the next year, neither egg nor bird was found; but the following year, early in July, two more eggs were sent to me, and the man who found them convinced me, by his very accurate description

* This was written in 1873, as the result of the author's matured observation. In the note-book for 1864 he states his belief that the upright position is possible, and is occasionally resorted to.—Ed.

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of the bird, that they were undoubtedly those of the Northern Diver. Since that time no more eggs appear to have been found, although the birds themselves have been seen by me in other parts of the island during the breeding season, and chiefly in fresh-water lochs. In answer to my enquiries concerning the nest, the finder of the eggs informed me that they were discovered lying upon the bare heather a few yards from the edge of a loch in a remote part of the hills, about half a mile from the nearest salt water. The eggs had been so long incubated that it was impossible to blow them in the ordinary manner, and the method of overcoming the difficulty being then unknown to me, the process caused some little disfigurement. They were all very much alike, both in size and colour, being a dark warm olive brown, with a few scattered spots of umber brown and dusky grey. In length they very closely agree with Mr Hewitson's figure, but two of them are about a line less in breadth. I am not aware that the eggs of the Red-throated Diver have ever been found of similar dimensions, nor is it at all probable that they can be those of the Black-throated Diver, a species almost, if not entirely, unknown to Shetland, even as an occasional visitor.

Once afterwards I received another Diver's egg from the same island, but since that time a dealer has prevented me from procuring any rarities. The eggs of this bird have doubtless been discovered accidentally in former years, but it should always be remembered that until very lately the Shetlanders would not take the trouble to search for scattered nests upon the hills, considering it better worth their while to visit cliffs and small holms, where eggs could be easily gathered in large quantities. The above simple facts speak so plainly for themselves that I need add nothing to them, except that leading questions were never resorted to, and that such evidence as I have adduced should not be entirely set aside simply because the Black-throated Diver—a species which has never yet been recognised in Shetland—sometimes lays eggs of about the same size as those of the Great Northern Diver.

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There are probably few ornithologists (I do not mean collectors) who, having read some notes on this species by Mr Harvie Brown, in the volume of the "Zoologist" for 1868, pp. 1309, 1424), entertain any doubt as to its having bred in Sutherlandshire, and one cannot help hoping that ere long that indefatigable out-of-door naturalist will, by the discovery of the eggs themselves, silence once for all certain less fortunate individuals who think fit to pooh-pooh any discovery in which they themselves are not directly concerned.

I have been told by Charles Thomson, now an old man, but from his youth up the constant companion of wild fowl shooters as well as the preserver of their spoils, and possessing a very accurate knowledge of the birds of his native island (Unst), that he had but once met with the young of the Northern Diver, and that was many years ago, when an adult bird, accompanied by two young ones apparently not more than three weeks old, was seen by him at Balta Sound, rather late in summer.

In the volume of the "Zoologist" for 1843 (page 365) is the following note from the pen of Thomas Edmondston, dated from Balta Sound, September 1843:—"*Note on the Northern Diver.*—A few weeks ago, my uncle, Mr Edmondston of Buness, shot a young bird of this species (*Colymbus Immer* of the older writers), which was evidently a bird of the year, the quills being almost unformed, and, in short, being scarcely fledged. This proves that the Northern Diver breeds in Shetland, a fact I have long suspected. The specimen alluded to was killed from a company of five individuals, two of which were old birds and three [two?] similar to the one procured."

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THE RED-THROATED DIVER.

Colymbus septentrionalis.

RAIN-GOOSE.

This Diver, though much less numerous than the last species, has from time immemorial been a constant resident in these islands, though not very common in the breeding season. Fresh arrivals certainly do occur in spring and autumn, the birds resting for awhile on their way northwards and southwards, but in suitable localities a few remain throughout the whole winter.

The habits much resemble those of the Northern Diver, with the exceptions that it is far less shy, is more ready to take wing, and often wanders from the sea far up the burns, and even into the fresh-water lochs themselves; in which latter the larger species is scarcely ever observed, except in the breeding season. I have a specimen which was caught by hand in a burn, and I once myself saw another in a similar situation, and chased it for about two hundred yards, the whole of which distance it traversed beneath the surface without rising for breath. The ground was very miry, but even had it been hard and dry, fast running would have been needed to have enabled me to head the bird, which I distinctly observed flying under water, not merely paddling with its wings, as it sometimes does when feeding. Another marked point of difference in habit between this species and the preceding is the infrequency with which a solitary specimen of the Red-throated Diver is to be seen; but I am not quite sure how long they continue in pairs or families.

In summer and autumn this Diver is often seen on the wing, usually in pairs at the former season, and later on accompanied by its young. Its local name "Rain-Goose," has been bestowed upon it in consequence of its cry being supposed to indicate the near approach of rain. It is, however, chiefly *during* rain that it delights to circle irregularly and at a con-

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siderable height, uttering its peculiar note. Sometimes, on the rain setting in, I have seen it flying rapidly landwards in a direct line from the sea, the cry then being something between a quack and a croak.

It is not a very difficult bird to shoot, except when it is passing overhead in full flight, and the speed it then attains by the rapidly repeated strokes of its wings is apt to be much greater than the shooter calculates upon. It is more easily driven into shallow water than the Northern Diver, though this requires some little practice; but when once in the shallows, the bird is compelled sooner or later to take wing, and as it will fly directly seaward, care should be taken to place the boat accordingly. If driven far up into a creek, it may gain sufficient height to enable it to fly across a point of land, but for the first fifty yards at least it keeps close to the water.

Laying commences about the first week of June, only a few hours being bestowed upon the construction of the nest, which consists of a moderate accumulation of such materials as chance to be nearest, as grass, carex, or rushes; usually there is a slight cavity, but I have seen the eggs upon the grass among flat stones without any appearance of a nest. Whatever may be the situation, it is always near water, and so chosen that the sitting bird has a clear view all round.

The nest, though not unfrequently found on holms and small islands, is much oftener placed by the side of one of those little pools which so often occur far away in the hills out of the ordinary track of peat-carriers. Unfortunately, the birds habitually resort to the same spot for a number of seasons in succession, thus causing the annual destruction of the eggs, for which the people are but now too well aware they can readily obtain a good price. I never yet succeeded in surprising the bird upon the nest, immediate warning of the approaching visit being conveyed by means of loud cries on the part of its mate, which is always swimming about in the neighbourhood, and which I have every reason to believe is the male, although many people assert that he also takes his turn upon

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the eggs. I am told that Hooded Crows are very destructive to the eggs, which of course are easily discovered in their exposed situation; indeed, it is a wonder that they ever escape. So far as I am aware, the eggs do not exceed two in number, but both in size and colour they are subject to considerable variation. They are seldom under the average given by Yarrell, viz., two inches eight lines in length, by one inch ten lines in breadth. The largest I have seen was four lines longer, but of the same breadth. It seems that the breadth of an egg is far less subject to variation than its length; nor is it improbable that if the unusually large specimens of the Black-throated Diver's eggs to which I have alluded at p. 280 were measured, they would be found of the normal breadth. With regard to colour, the spots on the egg of the Red-throated Diver are few, scattered, occasionally of large size, and of two colours—deep brown and brownish grey; but the ground colour may be either reddish brown, olive brown, or green of almost any shade; indeed I have seen it almost as light as that of the Wild Duck's egg. The variety most seldom met with is pale warm yellowish clay colour. I think the long-shaped variety of the egg, having its broadest diameter near the middle, occurs in Shetland with somewhat unusual frequency.

II. *ALCADÆ.*

THE GUILLEMOT.

Uria troile.

LONGIE.

It is almost needless to state that this well-known bird, the *lomvia* of the Danes and the *langivie* of the Faroese, is exceedingly abundant in these islands. It appears in large flocks near its breeding haunts about the end of February, and begins to frequent the cliffs not sooner than fully a month afterwards,

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though still some weeks before laying commences; after the second or third week of August it has almost entirely disappeared from the coasts. I have now ascertained that during the interval a very large number, though perhaps not the whole flock, are scattered throughout the neighbouring seas, stray individuals frequently occurring near the shore. Indeed they cannot be very far distant, otherwise they would not so soon appear after a gale from seaward. It is at such a time that the reason of the bird's preference for the open sea becomes apparent. No doubt many of them know better than to tempt danger too far; but some—perhaps the weakest, for these examples are always in poor condition,—suffer themselves to drift with the wind until they get among the breakers, against which and beneath which they bravely and perseveringly struggle and dive until compelled through exhaustion to resign themselves to their fate. This I have very frequently observed, though only in the case of solitary birds; but large numbers are often found dead along the shore, thus giving rise to the idea of epidemics, owing to the miserable condition of the birds and the absence of food from the stomachs. In the winter-time I used occasionally to be greatly perplexed by seeing a live Guillemot quietly drift ashore in the voe at Balta Sound during a slight breeze from seaward, but on referring to my notes afterwards I found that this only happened after the subsidence of a gale, and that the poor bird was in a starving condition.

The examination of specimens obtained between the end of January and the end of April leads to the supposition that either young birds alone frequent the coasts in winter, or that the bills and feet of the old ones undergo a change, and are coloured similarly to those of the young at that season. With the Black Guillemot the latter is certainly the case, as will afterwards be proved. I never saw a Common Guillemot with the bill and feet black in winter, but from dissection I have satisfied myself, as well as I was able by that means alone, that many of the specimens then procured were in the

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adult state.* In my description-book I find the following examples particularly noticed :—

Male (January 19th), in winter plumage—bill short and narrow, dark dusky brown, the tip nearly black; front and sides of tarsi and upper surface of toes, light brown, inclining to yellow, webs rather darker; back of tarsi and the claws deep dusky brown. This was ascertained beyond all doubt to be a young male.

Male (March 2d), winter plumage—bill short and narrow, nearly black, but still darker at tip; tarsi and feet as in the last.

Female (February 27th), summer plumage commencing—bill full-sized, nearly black; tarsi and feet, olive brown, paler and yellowish on inside of former and upper surface of latter.

Male (March 7th), in transition plumage—bill full-sized, and coloured as in last-mentioned specimen, but the light colour on tarsi and feet is paler in the present one.

Female (April 24th), in breeding plumage—bill full-sized, black; tarsi and feet nearly black, with a few lighter stains. This example was killed at the breeding station, but upon the same day, at some miles distance, I saw others with the front of the neck still white; it would therefore appear that those in transition plumage weeks previously to that date were old birds.

Macgillivray describes the male in summer, and says that it is resembled by the female in winter. He also states that the young bird in winter has the feet dull brownish flesh colour. Albinoes do occur, but they are extremely scarce.

Noss Head and Unst are the chief breeding stations of the Guillemots, but from all accounts the numbers now will bear no comparison with those of fifty years ago, so great has been the havoc committed by shooting parties. However, to those who never saw the Guillemots in their palmy days, the cliffs appear to be tolerably well stocked; and as the

* It appears that the size of the bill is not an infallible guide, although in most instances it can be depended upon.

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slaughter has now almost entirely ceased, we may yet be able to acquire some idea of the appearance of the cliffs in the breeding seasons of former years.

Old birds are so difficult to tame that the attempt is seldom made; the young, however, when taken soon after the quill feathers begin to appear, readily submit to circumstances, and are quite familiar with their captor in a couple of days. In running as well as in standing, the young birds rest upon the toes, seldom upon the tarsi; but as they attain their full growth the opposite is the case, their bodies having then probably become proportionably heavier. When a full-grown bird is caught and placed upon the floor, it lies upon the full length of the breast and endeavours to swim, making such severe exertions that if not removed it very soon injures both wings and feet. The young birds can walk very well. Of late years it has not been the practice to snare Guillemots, the fowler merely taking such as he can readily lay his hands upon. Birds caught in this manner of course make by far the best specimens.

Towards the middle of May, besides the large numbers of Guillemots which have assembled at the breeding stations, pairs in full summer plumage are frequent upon various parts of the coast, but by the end of the month solitary individuals alone are there to be seen.

The first eggs are usually found about the third week in May, and during the whole of June they may be procured fresh in abundance. I have seen them even as late as the 10th of July. Clean eggs are nearly always fresh, the surface upon which they are laid being sure to soil them in a very few hours. A stranger paying his first visit to a large colony of Guillemots is usually surprised at the unexpectedly small proportion of the green ones; but this is easily accounted for. Dealers, in ordinary supplies of sea-birds' eggs, refuse to take any Guillemots' except *handsome* ones, which to most eyes are those of the greener sort. Even the scientific collector, having obtained the most marked varieties, in selecting attractive specimens to fill up his drawer almost unconsciously chooses

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them of that colour. After all that has been written upon the subject, it is almost needless to remark that to obtain the eggs for one's self requires a good head as well as some little experience in climbing, but I would here most strongly protest against the dangerous plan of using spirits "to steady the nerves." When the climbing is over, by all means allow the adventurer to sit down by the nearest burn, enjoy his biscuits or his sandwiches, and empty his flask, if it suit his inclination; but when among the Guillemots, with the sun beating down upon him, and in the midst of a stench almost unbearable, and perhaps with the monotonous swell of the sea below causing a third rather uncomfortable sensation, a slight feeling of giddiness is not unusual; and if the descent have been prefaced by even a very moderate dram, the result may prove very alarming, if not fatal. Young beginners in the art of smoking may also bear in mind that I have seen one such beginner so completely *narcotised* as to have suggested the thought of leaving him in a secure place while men were sent for to haul him up the cliff with ropes. The folk who write about fowling can seldom resist a little platitudinising as to "but a moment's giddiness—but one false step"—which would precipitate the adventurer headlong into the boiling depths below, &c., &c.; but if they would vary the tune a little, and say—"But one small dram—but one single pipe of cavendish,"—they might do some good.

The Shetlanders entertain a strong prejudice against the use of a rope in their fowling expeditions, probably imagining that to avail themselves of such an aid would cause reflections upon their skill. Indeed, in the days when fowling was extensively practised, numerous strange ideas and superstitions were prevalent. Not many years ago, to die on the *banks*, as the cliffs are termed, was looked upon as the most honourable death a man could meet with; and I am assured that even lately, in the far removed islands of Foula and Papa Stour, when two people were quarrelling, the crowning reproach of all sometimes took the form of the remark—"Aye, but *my*

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father died like a man—in the banks; *yours* died like a dog—in his bed."

Although fowling is now very little practised except by some of the old hands, considerable quantities of eggs are taken annually, either for home consumption or for the local dealers. The cause of this decline has not been any failure in the supply, but the steady manner in which the proprietors have endeavoured to persuade the men to turn their time to a better account. A somewhat ludicrous occurrence took place some years ago, when a well-known landowner who was shooting from a boat was suddenly interrupted in his aim at a row of Guillemots by one of the crew, who exclaimed that there was a man up there; and so there was,—one of his own tenants, lying flat upon the ledge, perhaps not in a very tranquil state of mind, but for all that far more willing to risk the reception of a charge of shot than to incur the inevitable anger of the laird. It may be taken for granted that every one of the many thrilling stories of fowling adventure is firmly believed even by a better class of Shetlanders to have had its origin in these islands. One, however, having both novelty and truth to recommend it, occurred to a would-be fowler in Unst, as recorded by the late Mrs Edmondston in her "Sketches and Tales of Shetland:"—

"The man who had undertaken to climb the steep bank was neither very experienced nor very brave, although he boasted of being both. He pushed upwards, however, very briskly, without ever looking behind, till he had got to about a hundred and fifty feet, when he stopped to breathe. The pause was fatal to his self-possession, and he called out in tones of horror, "Men! men! I am going—I am going!" He still, however, held on for a little, and it was not till he had shrieked many times, "I am going!" that he did fall headlong. His comrades, having been thus warned, moved the boat out of the way, so that the poor fellow came sheer down into the deep water. Mighty was the plunge, but at length he rose to the surface, when of course he was instantly caught hold of, and

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dragged into the boat. After a good many gasps, and a considerable spluttering of sea-water from his mouth, his only remark was, "Eh, men! this is a sad story—I have lost my snuff-box!"

Sometimes, though rarely, the Guillemot will lay among Shags or Razor-bills, but it prefers keeping to its own particular portion of the cliff, which is occupied by the same species, and in all probability by the same individuals, year after year. In most cases these ranges are out of shot from the water; but even when otherwise, and the poor birds constantly are thinned, they are as loath as any Highlander to abandon the home which has become dear to them.

Among the crowded ledges, it is next to impossible to ascertain whether the Guillemot lays more than one egg in a season; but by experiments in small retired crevices, where there are not more than half a dozen birds, I have satisfied myself that one only is laid, but that if this be removed within a few days another is deposited in its place. Such, however, does not happen when incubation has lasted sufficiently long for the reproductive organs to have nearly regained their normal condition; but I have never yet tried the effect of removing the second egg. In these outlying situations also I have time after time endeavoured to determine the number of days occupied by the process of incubation, but with a not very satisfactory result; calls in other directions, or unfavourable weather, or some equally unavoidable cause, having most provokingly occurred at the critical time. The few trustworthy egg-gatherers whom I have questioned have expressed their belief that exactly four weeks, or twenty-eight days, is the time; but this estimate seems to be rather under the truth,—at any rate, I once discovered a conspicuously marked egg, apparently newly laid, and examined it just thirty days afterwards, and on carefully lifting away a small portion of the shell found a living bird within. With regard to the young birds themselves, ornithologists are still unable to decide how it is that, while some of the young remain upon the rocks, others,

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not many days old, are to be seen swimming in the surrounding waters. Some of the people unhesitatingly assert that they have seen the parents take them upon their backs, and some that they are carried down to the water by the neck; but none of the men whose word can be relied upon would venture to commit themselves to such statements. Macgillivray, who was usually very careful in the collection of his evidence, quotes the words of one of his correspondents, who asserts that the Guillemots "convey their young to the water by seizing them by the skin of the back of the neck, as a cat does a kitten;" but he overlooked the fact that his informant merely wrote from old tradition, and, as I have ascertained in conversation, had never witnessed the act himself. Mr Gray, however, in his pleasing account of a visit to Ailsa Craig,* states that the keeper, in whose veracity he seems to have confidence, had seen the parents carry them down on their backs, and also by the loose skin of the back of the neck. In the same account the author ingeniously suggests that, where such large numbers of eggs are crowded together, the great diversity of marks and colouring may enable each bird to distinguish its own; but it is necessary to remember that in a short time, especially in rainy weather, the eggs become so soiled that to recognise any marks of difference requires close scrutiny; indeed, the attempt is sometimes useless. The eggs, however dirty, need much care in the washing, especially when the colouring matter is new. Those specimens which are purchased, and which, having a very clean appearance, present a patch of the ground colour within a large deeply-coloured blotch, have most probably been overwashed, the pigment remaining longest in a soft state where it is thickest. Sometimes the Guillemot sits flat upon the egg, oftener in a nearly upright position, and when unapprehensive of danger seems to have a fancy for turning with its back towards the sea. I am inclined to believe, what others have already stated, that the egg is hatched between the

* "Birds of West of Scotland," page 421.

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legs, and I have sometimes wondered whether it is quite impossible that the young are carried down to the sea in that manner accidentally. If this could once be proved, it would also satisfactorily clear up the other two difficulties, viz., how it happens that only a comparatively few of the very young are seen in the water, and how it is that fowlers and others who spend whole days among them do not detect them in the act of removal. The Guillemot is more irregular in its hour of laying than any other bird I know. At two o'clock in the afternoon I have seen a female shot, containing a perfectly coloured egg. It has happened several times that similar cases—the hour excepted—have occurred at the distance of several miles from the nearest breeding station. When a sudden alarm disturbs the colony, it is sad to see numbers of the eggs either falling into the sea or breaking upon the rocks; a mishap so common, as the bird hurries off the ledge, that it must cause a large annual deficiency in the numbers. The idea that the birds wilfully destroy their eggs rather than leave them to be taken by the fowler, is still prevalent in Shetland; but the people are unable to say what can be the reason for tumbling their eggs over the cliffs when a shot is fired from below. Another popular belief exists, but only among those who have never visited the haunts of sea-birds, that the eggs of Razor-bills and Guillemots are fixed to the rocks by means of a kind of glue, supplied by the birds. The owner of a remarkably fine collection of eggs, questioning me upon this subject, was astonished at my ignorance in the matter, and although he would not contradict me, he hinted strongly at the advantages of more careful observations on the part of others. Of the extraordinary variety which prevails among the eggs of this species but little need be said. Pure white or spotless yellowish green varieties, formerly supposed to belong to *Uria lachrymans*, are not uncommon; but the deep spotless greenish blue is very seldom met with. Whether the ground colour be white or blue, the eggs are as liable t streaked as spotted; but, as a rule, the white eggs hav

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largest blotches. It appears also that where the colouring matter is faint and scantily supplied, it most frequently takes the form of streaks; and that when the green is pale, it is nearly always of a yellowish tint. At Burrafirth I have sometimes obtained a very beautiful variety, being white, closely mapped all over with reddish brown and warm purplish grey. That represented by the middle figure of plate cxxiv. in Mr Hewitson's second volume, is also rare, and so are those so closely mottled all over with the same tint of reddish brown as at a little distance to appear like mahogany. The average size of the egg is three inches four lines by two inches; but I have in my possession one which measures three inches nine lines by two inches two lines; and another as small as three inches by one inch ten lines. When the Guillemots are disturbed, they will sometimes raise a cry a good deal like that of a game cock when he sees a bird flying overhead, but in a very much deeper tone.

BRUNNICH'S GUILLEMOT.

Uria Brunnichii.

This species has been killed in Orkney, but it holds its place in the Shetland list solely on the authority of Captain Sir James C. Ross, who reports having seen it off the island of Unst. A few other asserted instances have been mentioned to me from time to time, but on investigation the evidence has always proved to be untrustworthy. Among the multitudes of common Guillemots which I have seen killed in Shetland, not one has borne any resemblance to it whatever; and on my offering a reward to the climbers for a specimen, the invariable answer has been that, to their knowledge, no such bird existed. The writer of a list of the birds of these islands in the "Zoologist" for 1861 describes it as "permanent," but there is not the slightest authority for any such statement.

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THE RINGED GUILLEMOT.

Uria lachrymans.

When writing of this bird, now many years ago, Macgillivray, touching upon the question of "species or variety," observed * that "one or two of the many idle sportsmen might settle the question, and probably find as much pleasure in exploring the breeding places of the Guillemot as in merely walking day after day among heather, and shooting grouse after grouse."

It is difficult to ascertain to what extent idle sportsmen have availed themselves of the suggestion, but it is certain that for the last twenty years at least many industrious ornithologists—some keen Grouse-shooters among them too—have devoted a large amount of time and attention to the subject, and with a result which leaves it in much the same state as before.

In offering my own crude and scanty observations, I shall therefore endeavour to avoid allusion to my own opinion, merely keeping in mind that I am relating facts concerning a Guillemot with a white ring round the eye, and a line of the same colour extending backwards therefrom, and which, for the sake of custom and avoidance of confusion, I still call the "Ringed Guillemot."

In its times of arrival and departure, and in its winter habits, it precisely resembles the Common Guillemot. My remarks upon the plumage and the colouring of the bare parts in the one apply also with equal truth to the other. Both vary considerably in size, but I think upon the whole that the Ringed Guillemot is the smaller of the two. Mr J. H. Gurney, jun. records the capture of a remarkably small specimen at Bridlington ("Zool.," 1869, p. 1684,) At various times, but mostly near the breeding season, I have seen couples and single birds along the coast, the couples obtained con-

* "British Birds," vol. v. page 329.

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sisting of a male and a female; but I have never seen a ringed and a plain bird together except in flocks, neither have I found the two of a couple to be of one sex. At present these facts are of little value, and before they can be practically applied the assistance of other resident observers will be required. From the latest accounts it appears that the two kinds even pair together; but one source of error must be kept in view, namely, that the same thing occurs among many species of birds, and with fertile result, though not always. In the case of the Guillemots, who is able to declare that his observation of the pair has ever extended further than the fact of pairing?

One point at least I think I have settled, viz.,—that although [among adults ?]—the white marks in question may possibly be peculiar to very old birds, they occur in the young bird in its first plumage. After a vast amount of persuasion, watching, and feeing, I at last induced some of the people to keep both birds, giving them liberal supplies of fish and full liberty to run about the cottages. Young birds were of course selected, but none lived as long as I could have wished; the last of the ringed birds living to the end of the fifth year, and the last common one only surviving it a few months. There was neither disappearance of the marks in the one case nor assumption of them in the other. Thus were much time and trouble wasted; for, as Mr Wolley observed ("Zool.," 1852, p. 3479), when proposing a trial of the experiment,—"If the ringed changed to common birds, or *vice versa*, I suppose every one would be satisfied, on the fact being properly attested; but if they did not change, unfortunately nothing would be proved."

The series of eggs which I had collected from under the ringed birds I considered a great point gained, for though most of the birds were sitting side by side with the common ones, I was then unaware that each does not invariably return to its own egg, although it is very seldom that the mistake is committed. Since that time I have always collected them from those little visited because comparatively unproductive spots, where two or three ringed birds built, not always alone, but

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occasionally with a scattered few common ones close by. I procured the first eggs year after year, always leaving those of the second laying, and can assert positively that each description of bird returns to the same spot annually. The eggs are for the most part undistinguishable from those of the Common Guillemot, and I have specimens, fully coloured, taken from recently-killed females; but with the exception of having discarded my former belief, that the egg was peculiar in size and shape, I cannot but adhere to my old opinion ("Zool.," 1864, p. 9242), "that generally in the eggs of *U. lachrymans* the blotches are larger, the ground colour is clearer, there are fewer under tints, and the markings are better defined and less prone to take the form of streaks." It may be scarcely necessary to remark that both birds occasionally lay white eggs. Mr Harting mentions ("Handbook of British Birds," p. 74), that in the Hebrides Mr Harvie Brown had seen a Ringed Guillemot feeding a young bird which was under the wing of a Common Guillemot. This again but throws an equal weight into either side of the scale; for it may be asked, is it certain that the parent which cannot recognise its own egg is incapable of making a similar error as regards its own young?

The proportion of the number of ringed to common birds in Shetland has not yet been correctly ascertained. Very few of the summer *battues* have been attended by me, and it is impossible to obtain correct information from a number of excited shooters upon their return. The fowlers consider the "Longie with the white eye" to be less abundant than the common species; and with regard to the eggs, they say they are "bonnier," meaning that they are more distinctly marked, and the blotches are larger. All this precisely agrees with my own experience.

Now that the sea-birds which breed in the British Islands are so happily on the increase, observers will have better opportunities of collecting facts for themselves, but the question of species or variety appears to be almost a hopeless one. Even the experiment of keeping birds in captivity

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divulges nothing, and sceptics may still say of my own which continued for five years, as above related, that had they lasted twenty, some change would surely have happened; and then, if there were no change in appearance by the end of that time, the suggestion would naturally arise that the result might have been different had the birds been at large.

[A careful examination of the very numerous allusions to these two Guillemots in my brother's journals fails to show the smallest trace of his having ever observed a specimen which could not at once be referred to its type. Nothing is ever seen of an intermediate state, whether in the old birds or in the young. Slight though the specific distinctions may be, they are of a positive character, and are always decisively marked, the ring and "bridle" being either unmistakably manifest or absent altogether. The importance of this point will be appreciated by observers who some years ago may have had to form their own conclusions as to the claims of the variety of *L. ridibundus* with which good Mr Yarrell, following Temminck, so sorely puzzled us, under the name of the Masked Gull. —Ed.]

THE BLACK GUILLEMOT.

Uria grylle.

TYSTIE.

On the arrival of the ornithologist in Shetland, one of the first objects to attract his attention is that always lively and beautiful little bird, the Black Guillemot, and albeit he may lose no time in procuring a good supply of specimens, he will be remorseless indeed if he disturb it further, except for the purpose of throwing light upon some particular point in its natural history. It appears unaccountable that a bird so harmless and familiar should be so sadly persecuted by Shetlanders of every class; they never pass a chance of shooting it, although it is utterly worthless to them when killed. Every time one appears near the boat, even at the distance of half a

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dozen yards, it is eagerly pointed out by the crew as offering a "splendid shot." Black Guillemots being quick at diving to the fire, it is not easy to shoot them upon the water at long distances; when they take wing, it is by no means difficult to bring them down, their habit being to fly off in a straight line, rising very gradually. I have not seen them fly higher than about ten feet above the surface. When threatened with immediate danger, both old and young usually prefer diving as a means of escape, but the latter are less ready to take wing than the older birds, probably having less confidence in their own powers of flight. It is certain also that they are less willing to rise when a fresh breeze is blowing, or when heavy unbroken seas are rolling in. Many a bird is spoiled as a specimen by shooting it at too short a distance, in order to prevent its escape by diving, but this is the only manner in which the people ever attempt to shoot it. The pursuit of a winged Tystie is considered by them most excellent sport, and I have seen it thoroughly enjoyed by one who used to blame me for cruelty in shooting Wild Pigeons for the table. Even with one wing broken, the poor bird is still capable of diving with extreme rapidity; but its exertions in a partly disabled state compel it to rise to the surface much sooner than usual, the intervals becoming shorter and shorter as exhaustion comes on. The boatmen easily manage to keep near it, while the shooter, armed with a tiller or other convenient weapon, endeavours to strike it before it can dive. This is by no means easy, and the shouts of laughter which arise at each unsuccessful stroke completely nullify the after excuse so frequently made, that "it would be a sin to let the poor bird go about in torture." This *sport*, however, is not always attended with unpleasant consequences to the bird alone, as can be testified by a gentleman of my acquaintance, who, having repeatedly missed his victim, miscalculated his distance, and went headlong for a dive upon his own account.

It was towards the close of my residence in the North that, for the first and only time, I saw a Black Guillemot make for

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the land after having been wounded. The rocks were about sixty yards off, but, partly by aid of its wings, it managed to reach a ledge, on being disturbed from which it dived, and after rising, dived once more, and we never saw it again.

Sitting among the rocks about twenty feet above the glassy surface of the water, one may pass whole hours watching the Tysties feeding, the water being so perfectly clear that every movement can be witnessed without the smallest obstruction. They procure their food in much the same manner as the Mergansers, swimming quietly from rock to rock by the help of feet and wings, turning aside the long weeds with their bills, and after each capture of fish or crustacean, coming to the surface to complete the process, seldom making another dive without half rising from the water and flapping the wings—to free them from superfluous moisture, one would suppose, were it not that this occurs far less frequently after unsuccessful dives. For some time after the descent is made, the numerous air-bubbles clinging to the plumage give the bird a singular but remarkably beautiful appearance. The average duration of each submergence is as nearly as possible twenty-four seconds. the bird making a slight sudden splash with its wings as it disappears. Half a dozen Tysties at a time may be seen thus engaged, and often as I have watched them I never observed anything like an approach to a quarrel among them. One, however, evidently a bird of the year, rather excited my pity as I sat in my accustomed niche. It never once tried to obtain anything for itself, but no sooner did it catch sight of a companion rising with a fish, than, immediately following, it seemed earnestly to beg for a share, though always without success. This would seem to indicate that the young bird is in the habit of accompanying the parent in its explorations beneath the surface, and that here was an orphan bird. There is, so to say, a characteristic simplicity in the young Tysties which makes them more confiding than wild fowl in general are wont to be in early life. I have sometimes had great pleasure in

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coaxing one of them quite close up to me by gently tossing pebbles in front of it.

The only opportunity I ever enjoyed of seeing Black Guillemots travelling under water at what may be supposed their full speed, occurred one afternoon in February. I was standing upon a rock near the foot of a low cliff, upon the other side of which repeated firing could be heard, when Tysties, conspicuous in their grey winter plumage, came sweeping round the point, literally flying under water, seemingly intending to take refuge in the little bay; but having observed an unavoidable movement on my part, with one accord they rose and flew rapidly away.

The changes of plumage occurring among the various species of sea birds have always been most difficult to thoroughly investigate, but among certain families, the Divers and Guillemots for example, the extraordinary liability of certain individuals to retain the summer plumage until winter, and of others to assume it many weeks before the accustomed time in spring, has led, and still leads, to a vast amount of perplexity. To take the Red-throated Diver as an instance. As long as it occurs in winter plumage during the recognised period, the summer and winter dresses are believed to be quite distinct; but no sooner is a chance specimen procured, late in autumn or very early in spring, exhibiting a red throat, than the possessor—who probably is scarcely so well up in his "Zoologist" as he ought to be—immediately revives the old question, and for a while the pages of our natural history journals are encumbered with the discussion of a matter which has long since been satisfactorily settled. Nearly every ornithologist now admits that the Common Guillemot loses the black throat in winter, yet rare exceptions do occur;* and because similar abnormalities are observed more frequently in the Black Guillemot, which is exceedingly common at all seasons, it has

* I have met with instances in December and January. In making such assertions as the above, the month should invariably be mentioned, to avoid the danger of trusting to memory, and thus perhaps committing the grave error of speaking of a snowy day in October or April as "the winter time."

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been maintained that in the latter species the black plumage is permanent after the first summer. Until within a comparatively recent period, those of the inhabitants who paid attention to the subject maintained this opinion, and also believed that immediately after the breeding season the old birds withdrew themselves for the winter. It is now an acknowledged fact that the latter impression is correct, but the theory as to the retention of the black plumage is, or should be, altogether discarded. Both were advocated by Dr L. Edmondston in a paper read before the Wernerian Society in 1823, nor was it until many years afterwards that he discovered his views to be only partially correct.

I am not acquainted with any account of the habits of the Black Guillemot in Orkney, except that given by Low, who observes—"These birds are found in the winter-time almost wholly grey, and others spotted about the head, neck, and back with that colour; but whether they change colour in winter, and put on this as the dress of the season, or if it is the last year's brood not yet arrived at their proper colours, I am uncertain; one thing I am certain of, that I have seen them of both colours late in the winter and early in the spring, so that in my opinion the change is not universal, or perhaps it is but in the hardest winters where this happens in general." In a foot-note he alludes to the dingy colour of the feet in winter as characteristic of immaturity; at the same time calling attention to the want of proof that the bare parts, having once acquired the colours proper to the adult, ever undergo any farther change.

To those unacquainted with this species in its wild state, it must be perplexing indeed to obtain a specimen, say in August, evidently assuming the grey plumage of winter, just after having been assured by native ornithologists that the black plumage, once acquired, is never lost; or, when convinced of that error, to observe a black Tystie in mid-winter; or, again, to meet with others in a similar state where none but grey ones were to be seen the day previously. Then, having made up his mind that adults leave in winter, he is again bewildered on

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shooting many undoubtedly old birds in grey plumage in the very depth of winter. In order to clear up these difficulties, I have paid unremitting attention to the species during a long series of years; and simple though the result appears, it has cost no small amount of labour, and, I fear, a large sacrifice of bird life;* but as containing indisputable facts, the abstract of my notes may be relied upon, even should my conclusions appear erroneous.

Both old and young are grey in winter. Upon this question there can be no doubt as regards the young, but the older writers, who, with their flint guns, seldom wasted time in attempting to shoot these or any other quick divers upon the water—much less upon wing—asserted that the adults left the island as soon as the breeding season was over, without undergoing any change. My own notes show that the commencement of the autumnal change—which is now a settled fact—is observable as early as the first week in August; and I have watched the various successive modifications until the acquisition of the perfect winter dress. It must be admitted, however, that those which migrate do so suddenly, and while still in summer plumage, and that those which remain are exceedingly few in proportion. The young do not migrate until their second autumn. In winter an old bird may be dis-

* I must here again acknowledge the persevering and judicious manner in which Robert Mouat afforded me his aid, especially with regard to this particular subject;—fully understanding the difficulties to be investigated, and avoiding much needless slaughter by procuring only such specimens as he knew would prove useful. Of his indomitable perseverance but one instance need be given. Shortly before my departure for the south, I sent him one cold spring morning to a distant bay to procure six specimens of the Black Guillemot —one of which was to be a black one if possible—in the most interesting states of plumage he could find, at the same time reminding him that it would probably be the last chance. It was not until after dark that he presented himself, in a sad state of cold, dampness, and hunger, carrying one perfectly black specimen, and five in various stages of grey. I then ascertained the cause of his long absence. Almost at the first shot the pivot of the hammer of his gun, which was only a single barrel, broke short off; but he would not return, and, with a true Shetlander's knack of getting out of a scrape, he resorted to the apparently hopeless expedient of holding the gun at the aim while his companion struck the cap with the flat of a chisel! Of course the misses during the day were numerous, but for all that he attained his object triumphantly.

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tinguished by the larger beak, which averages an inch and a quarter in length; by the darker hue of the upper surface; by the freedom from spot of the white patch on the wing, which in the young is always mottled with black until the summer moult; and by the brighter colour of the feet and of the inside of the mouth.

The adult acquires its summer plumage earlier than the young, and the males of both sooner than the females. About the beginning of March, while the young birds are still unaltered in appearance, the old ones which have remained with them during the winter have already undergone a considerable change, a very few being black, the rest with the under part largely spotted; and shortly afterwards others presenting the same appearance begin to arrive, the number of arrivals rapidly increasing as spring advances. At this season the fishermen observe them in small flocks a few miles off the land, seldom diving, but "just idling awa their time." These new arrivals are usually rather shy at first. Indeed, it is not unworthy of notice, as bearing upon the question of migration, that in late winter, say in February, when great numbers may be seen in parties of a dozen or so, the birds in black plumage are apt to be extremely wild. As April, which is the pairing season, approaches, a bird in black plumage may be seen with a mate still retaining many white feathers, or two in the latter state may pair; but as they are late breeders, not a spot of white is apparent some weeks before laying commences, viz., about the first week in June. The earliest hatched birds are therefore about a month old when the autumn migration begins; but very soon learning to provide for themselves, they then no longer require the assistance of their parents, which can by that time safely leave them. Yet it may be asked, what becomes of those which are hatched three or four weeks later? Is it not possible that the adults which remain behind are their parents? It is difficult to see how the question is to be investigated; but could this once be proved, it would be a step at least towards clearing up the mystery of partial migration among birds.

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In winter, the inside of the mouth and the feet are not so brightly coloured as in summer, and those parts are always still less brightly coloured in the younger birds. This fact has now been well known to me for so long as to make it seem scarcely worth noticing. However, as I was unable to obtain any assistance even from our best authors, and was therefore compelled to have recourse to my gun, it is possible that the mention of it here may enable others to avoid resorting to a similar extreme.

Adult in December.—Eye nearly black; bill not so black as in summer; tarsi, feet, and inside of mouth, coral red, slightly tinged with orange; back of tarsi and under surface of feet, dusky.

Adult in breeding plumage.—Eye nearly black; bill shining black; tarsi, feet, and inside of mouth, vermilion, deeply tinged with carmine; no dusky marks on tarsi or feet.

Young at the end of August.—The eye is dark brown; bill blackish grey; inside of mouth pale orange; tarsi and feet deep brown, the front of former and upper surface of the latter paler. By the end of September the inside of the mouth has changed to brownish pink, and the legs and feet to a deeper brownish pink. In December the colours of these parts very nearly resemble those of the adult at that time, but are not so much tinged with red. By the end of June the bird has acquired its full plumage, and is undistinguishable from the adult.

The first eggs of the Black Guillemot are seldom found before the beginning of June, during the whole of which month they may be procured in a fresh state, but seldom many days later. The eggs are always two in number, and are either deposited, without any nest, in crevices of cliffs, not very far beyond the reach of the waves, or upon beaches, beneath large rocks. I have also found them fifty or sixty yards inland, on grassy slopes strewn with rocks, but I have never seen anything having the least resemblance to a nest. The eggs present very little variety in appearance, and are coloured much like those

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of the Razor-bill, without being so frequently subject to the rich shades of reddish brown commonly observed in that species, but with far richer tints of bluish and purplish grey. The ground colour is generally white, often tinged with blue, but very rarely with pale brown. The yolk of the egg is of a deep orange red, far deeper than that of any other with which I am acquainted. As the black Guillemot returns every season to the same breeding place, even to the very same holes, strangers desirous of taking the eggs with their own hands will save much time by getting some person to whom the haunts are known to accompany them as guide. The male assists his mate in the duties of incubation, and to no small extent, if one may judge by the denuded state of the abdomen. The down must be worn off, not plucked off, as is usually stated, for only accidental bits of it are found lying about. I never saw the young birds in the water before they were almost fully feathered, and have taken them in that state from the nest; their cry is shrill, but rather plaintive. They are easily tamed, but almost invariably die before the expiration of the first winter.

The average size of the full-grown male is thirteen inches and a half, but I have seen it an inch longer.

The plumage of the bird in the breeding season is exceedingly beautiful, the sooty black, especially upon the upper surface, being glossed with bronze and purplish red. The collector, however, should bear in mind that these hues are almost impossible to be restored if the specimen has been allowed to become soaked with sea-water, or if plaster of Paris be used in skinning. Some care should also be taken to avoid stretching the skin of the neck where the feathers are small, that being the surest way of all to destroy the gloss.

As a rule, the Black Guillemot keeps near the coast, but it is sometimes seen as much as twenty miles away from land. Under such circumstances it does not seem to be feeding, but merely to have strayed away.

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THE LITTLE AUK.

Mergulus melanoleucos.

ROTCHIE.

A whole winter will sometimes pass without so much as one of these interesting little birds making its appearance, and for some time I was unable to get a satisfactory explanation of the apparent irregularity. At last, one day in January, a fisherman brought me a Rotchie which he had knocked down with the boat's tiller a few miles out at sea, assuring me that there were plenty about the coast, and that a few miles out they were quite abundant. It then became apparent that the case of the little Auk was almost precisely similar to that of the Guillemot; that is, that it remained near the coast during a certain portion at least of the winter, that the few birds which now and then visited the bays and inlets were mere stragglers, usually appearing in fair weather only, and that the numbers which were occasionally drifted ashore dead, or into sheltered bays in a living state, had been unable to withstand the force of the gale outside. I have now held this view for some years, and am glad at last to find an advocate of the same in Mr. Gray.*

These birds are far more ready to make use of their wings than are the Guillemots and Razor-bills; therefore, bearing in mind that the storm-driven birds seldom occur in the daytime, we may reasonably conclude that the darkness is the main cause of their misfortunes. Sometimes they are found in ditches alive and strong, sometimes upon the highest hills, and by no means unfrequently in cottage yards, whither they have no doubt been attracted by the light from the windows. They are well known to most of the inhabitants, who look upon their appearance as nothing unusual; but in the North Isles at least I have not heard of their having been seen in large numbers. The report that large flocks arrived regularly every

* "Birds of West of Scotland," page 432.

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winter at Bressay Sound has now been disproved by conscientious observers. The chances of the gale sometimes drive the Little Auk upon the inland lochs, where it makes itself perfectly at home, remaining there as long as the rough weather continues, but as soon as it moderates almost invariably taking advantage of the first favourable opportunity for departure. Those which are picked up on land occur after a gale from any quarter; but it seemed a curious fact that almost without exception the dead birds were washed ashore by an easterly wind. The cause, however, is plain; the west coast is exceedingly precipitous, and has very little in the way of inlets or beaches, whereas on the east coast the opposite is the case. Such matters may appear trifles, but attention to them will often prevent serious errors. During the last eight or nine years I have become quite familiar with the Little Auk in its wild state, but have learned very little that is new with regard to its habits. In its general appearance it reminds one of a small Razor-bill, but the fore-part of the body is not carried so low in the water. The act of diving takes place so suddenly that the mode in which it is performed cannot very easily be detected, nor indeed does it often happen that one has a chance of studying the habits of the bird with sufficient minuteness. I have observed that the wings are partly opened at the instant of making the plunge.

In almost every specimen that has come into my hand the stomach has been quite empty; but nevertheless I have seldom seen the bird in poor condition. I have rarely seen the Rotchie ashore, and then only about March, among the rocks, and not many feet above the water. It was difficult to know what to do with the living birds when many were sent to me. If much fatigued, they died in a few hours; and if active and strong; they were so unwearied in their endeavours to escape as seldom to allow themselves to outlive the gale. To the last they were always ready to attack any one who attempted to touch them; and, considering their small size, they could bite smartly enough. Upon the few occasions of my being able to restore them to

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the sea, they invariably dived; and after making a pretty good offing, kept parallel with the coast. As is my practice with most sea-fowl, I used to kill them by placing within the throat a bit of cotton wool, but like all diving birds they always required a comparatively large quantity.

In its changes of plumage the Little Auk is as irregular as the rest of the Alcadæ, and the same rule holds good as to the old birds changing first. I have seen them with the black feathers in considerable numbers upon the front of the neck early in December, and birds in summer plumage by the 4th of April, although that state is usually attained a month later at least. As late as the end of May I have obtained specimens from a distance of about twenty miles north-east of Unst, in various states of plumage, some having the front of the neck white, others entirely black. I am unacquainted with the means of distinguishing the young bird after its first summer, believing that after that period it differs in no respect whatever from the adult. A note, however, appears in the "Zoologist" for 1865, p. 1424, from Mr Blake Knox, recording that he killed a bird in its second winter, but without any further information.

From a large series of notes, which may now be condensed into very insignificant dimensions, I find the colouring of the bare parts to be as follows:—

Adult, middle of January—bill nearly black; eye dark brown; tarsi and membranes greyish black, the fronts of the former and the upper surface of the toes dusky brownish grey.

Young, middle of January—differs in having the fronts of the legs and toes dingy flesh colour, darker upon the joints.

Adults in breeding plumage, May 22—eye deep brown; bill, tarsi, and feet black.

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THE PUFFIN.

Fratercula arctica.

TAMMY NORIE.

It is generally believed in the island of Unst that the Puffins have an almost preternatural faculty for timing their movements according to the calendar, the whole body of them departing on a given day in each year with the regularity of clock-work. Without going quite so far as this, I cannot but admit that the birds do leave with most notable punctuality, the 23d of August being almost always the marked day of the migration. Thomas Edmondston also gives this date, saying that the Puffin generally arrives about the 1st of April, and departs constantly on the 23d of August. It need scarcely be remarked that a few stragglers are left to bring up the rear. A flock may now and then be seen as late as the first week in September, but such an occurrenee is very unusual, and it is very rarely indeed that a Puffin is seen with us in the winter. As a rule, the birds arrive in the last week in March, and begin laying about the third week in May, this being perhaps a little early, on the average.

My first opportunity of forming intimate acquaintance with the nesting habits was gained in the course of a memorable day's scramble among the cliffs at Hermaness, in company with one of the best of the professed cragsmen of Shetland, one fine day in June 1861. To get well up to the slopes on which the Puffins were breeding it was necessary to make a long circuit, passing the Guillemot ranges, and very sufficiently did my heart misgive me, on looking at these latter from the brow of the cliff, but my guide assured me that if I had head enough he would take me by a "road" which a child might travel.*

* In Shetland there were no roads, in our sense of the word, until the year 1847, when the Relief Committee, in that sad season of distress and famine, caused to be constructed the tracks which were long known as "destitution" roads, a term only too well known in the Scotch Highlands also in those days. As used by a Shetlander, the term merely indicated a practicable way. I was once shown a "road" to the summit of Leara Skerry, in the west, some ninety

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Accordingly, after going some hundred yards along the edge, we began the descent. The smooth short grass rendered our footing somewhat insecure, but with a little care the difficulty was overcome, and a few minutes brought us to a rough uneven steep, covered with large stones, from beside one of which rose a Lesser Black-backed Gull, from three eggs. Presently, after passing the slope, I received a wrinkle as to the secrets of the so-called road. My companion walked to the edge of a large mass of rock on which we were standing, told me to wait until he was ready to help me, let himself over the rock, and then hanging by his arms, dropped down for several feet. There was nothing for it but to put on my boots, which until now had been carried on my back, and to follow his example, landing safely upon a sort of narrow platform; though, it must be owned, I should not have been much inclined to try it had there not been a pair of stout arms ready to catch me in case of a slip. However, thus fairly in for it, I once more removed my boots and followed my companion, in whose safety, it need not be said, I now took a most lively interest. The climbing was far from easy, but still on we went, now up, now down, sometimes passing Herring Gulls' eggs, sometimes Lesser Black-backs', and once discovering a nest of young Rock Pipits, evidently hatched about a week. Suddenly a well-known scent—none of the sweetest, by the way—made known that the Guillemots were at hand, and in a few minutes we were in the very thick of them. They sat in rows, eight or ten together, sometimes a score or more; some upon their solitary egg, others upon none at all, but most of them so tame that we could have knocked them down with a long stick. The ledges upon which they were sitting were so whitened that scarcely an inch of the rock itself was visible, and the footing was occasionally rendered somewhat precarious by the same cause, the rock being so slippery. We found the Ringed Guillemot, as well as the com-

feet high, which in the main consisted of nothing more than a sequence of projecting knobs and ledges where the rock was only perpendicular, and did not overhang.—ED.

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mon species, and took especial pains to keep the eggs of the two separate. After some time spent among the Guillemots, we gained a grassy platform a little farther down, where there was a small stream of water, and here we got our lunch, and I blew and packed the eggs at leisure,—processes which kept me employed fully a couple of hours—with the most glorious prospect spread out beneath. Just as one was beginning to let the mind drift away into dreamland, in so strangely wild and picturesque a scene, my worthy guide, who had been absent for some time, reappeared with his shirt full of eggs, putting a summary stop to meditation. The poor fellow almost keeps his family on eggs during the summer, therefore I could not blame him; besides, though to be sure I seldom, if it can possibly be avoided, take all the eggs of one nest, conscience made it needful to admit that one was coming home pretty well laden oneself. After this we ascended to the Puffins' holes in the cliffs above, and here was the most ticklish climbing of all, on account of the rottenness of the earth and stones, which crumbled away as they were touched, but, for all that, we contrived to procure as many eggs as we wanted. Some of the holes were not more than eighteen inches in depth, others so deep that the eggs were beyond our reach, and others, again, winding upwards or downwards, to the right or to the left. In some instances there were two entrances to one nest; but this seems only to be the case where, the face of the cliff being irregular, a new burrow happens to strike the course of an old one. Occasionally the eggs were deposited upon grass, or down, or feathers, but not a few were upon bare earth. They were, as usual, dull white, with very faint spots of grey and brown; but several were so stained by the damp earth as to be quite of a rusty colour. Rabbits were tolerably abundant in the cliffs, therefore I had no cause to doubt my companion's assertion that Puffins will often seize upon the burrows of those animals; but for the most part the holes are dug by the birds themselves—a work, by the way, I have seen both sexes engaged in. Before introducing my hand into the holes I took the

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precaution of putting on a couple of thick Shetland gloves, one above the other, and thus it mattered but little that the birds held on with their bills as fast as they liked. I have been told that the Puffin cannot bite so severely as has been supposed: perhaps not, but I should not like to try.

Before we left the cliffs I learned how it was we had not descended first of all by this route. Just in our way was a rock jutting out in such a manner that we had to climb over it with our backs projecting seaward rather beyond our feet; not at all difficult in ascending, owing to the excellent grasp afforded by the rough surface of the crag, but scarcely possible of descent, when one's legs are swinging loose in the air, and one cannot see where to get a footing. Surmounting this, we were soon at the heathery summit, among the nests of the Arctic Skua, and worked our way home, lighting upon nests of the Mountain Linnets and the Wheatears, by way of contrast, to finish with.

The single egg of the Puffin varies but little in size, usually measuring two inches and four lines by one inch and seven lines, and the shell is very brittle in texture. One of the most remarkable deviations from the average type that was brought to me showed a ring of light-brownish grey and dull raw sienna round the larger end, with a few spots of the same scattered about the remainder of the surface. In another instance the egg was covered with long irregular streaks of light brown, and purplish grey, of various shades, upon the usual dull white ground.

It is sometimes said that, in a calm, Puffins are unable to rise from the water. This is certainly incorrect. At such times they perhaps have more difficulty in getting upon the wing, and, when fired at or otherwise disturbed, will usually have recourse to diving in preference to flying, but they are very fond of flapping along the surface of the water for a short distance, and I fancy it is the awkward manner in which they do this that has, to many observers, given them the appearance of failing in their endeavours to rise.

The experiment of keeping Puffins alive has been tried, but

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I have never heard of its succeeding very well. I knew of two young birds taken from the nest by Josie Mathieson, and kept alive for some time, fed upon fish. They did well enough until the autumn was somewhat far advanced, but they then became very restless and lost appetite, and were continually endeavouring to escape. In this way they lived on for a while, and both died about Christmas.

In the adult male, in the first week in July, the bare parts are as follows:—Eye [grey]; eyelid, orange red; fleshy substance above and below the eye, dark bluish grey; bill, upper mandible, basal ridge, greyish yellow; triangular space, dark bluish grey, remainder orange red, palest at the junction with the bluish grey; lower mandible differs in having the basal ridge orange red; legs and feet reddish orange, rather dingy behind; claws, blackish brown. In a dead bird, perfectly fresh, which was picked up on the shore so late as the end of September, I observed at the time that the sides of the head were of a smoky grey, with a number of black marks about the eye, chiefly above it.

The queer facial expression of the Puffin has caused it to be selected by the Shetland folk as a standard for uncomplimentary comparison when personalities are indulged in; our "looking like a goose" having its much more graphic counterpart in "for a' the world like a Tammy Norie."

THE RAZOR-BILL.

Alca torda.

WILLOCK.

This species is said to have formerly been as plentiful as the Guillemot, but it has of late years been steadily decreasing in numbers, at any rate in Unst. The cause of the falling-off is not very apparent, the habits of the birds being so similar, and their requirements in the way of food being identical. A friend has suggested that possibly the Razor-bill is not so long-

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lived a bird as the Guillemot, and that the declension in point of numbers may be accounted for on the principle that the adverse influences which have increased with the progress of civilisation would tell more in proportion upon the shorter-lived bird. The suggestion may at any rate furnish a hint for a mathematical examiner inventing a problem paper, and to him we will leave it, merely remarking that as the Razor-bill is a good deal bigger than the Guillemot, it perhaps offers an easier mark to the gunners. It would nevertheless be very desirable to get accurate observations on the duration of life in birds of this class which lay but one egg, as compared with others which lay many. The Razor-bill arrives and departs about the same time with the Guillemot. One of the few which I have seen in winter was shot by me at Balta Sound on the 17th of December. It was a female, and among other signs of adult age it had the bill perfect in form, and grooved upon the side, one of the grooves being white. The throat and the remainder of the under surface were white, and in short the whole plumage was in every respect similar to that which is described by various authors as characterising this species in winter, with the single exception of there being *no white line* between the base of the bill and the eye. I am at a loss to account for its absence; for, so far as I am able to ascertain, such a mark becomes apparent even in young birds soon after they leave the rocks, and is distinct during their first winter. It seemed well to make a careful note of this, from its possible bearing on the question as to the right of the "ringed" Guillemot to rank as a distinct species simply on account of the white lines near the eye.

The mode of diving in this species is peculiar, the bird disappearing almost perpendicularly, so that for an instant one sees nothing but the tail sticking up above the surface of the water. One evening in June a man brought me a Razor-bill which he had caught at the deep-sea fishing a few hours before. It had dived after the bait as the lines were being hauled in, and was hooked in the breast.

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The egg is of about the same size as that of the Guillemot, but it generally has a tinge of brown in the ground colour. When the blotches upon the Razor-bill's eggs are very large and deep, they are usually paler about the edges, having very much the appearance of marks made by scorching with hot coals. Among the largest specimens I have met with is one taken in June 1864, measuring three inches and one line by one inch ten lines. It is distinctly tinged with bluish green. The eggs are found singly, upon rocks, in situations similar to those chosen by the common Guillemot; but I have known an instance of the occurrence of a Razor-bill's egg in a deep crevice between two pieces of rock, after the occasional habit of the Tystie. The bird sits horizontally upon the egg, and will now and then sit so close as to be taken by the hand. One which was brought alive to me, thus captured, had bitten the hand of its captor so severely as to draw blood.

The cry of the young bird is very peculiar, being a loud shrill note, something between a chirp and a whistle, but more resembling the latter. I had a good opportunity of observing it at leisure in a nestling, not yet feathered, in captivity.

Of the illustrious congener of this species, the Great Auk, there is, alas! nothing to be said, no authentic record existing of its having been seen in Shetland.

III. *PELECANIDÆ.*

THE CORMORANT.

Phalacrocorax carbo.

LOERING (*adult*)—BRONGIE (*young*).

Of the two Cormorants which abound in all parts of the Shetland coast, the present species is the less numerous; but it may be seen at all seasons, the birds in windy weather flying at a considerable height, or riding just outside the surf, and diving

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under every wave that threatens to break. Occasionally they will resort to the fresh-water lochs, where the Shag is much less frequently to be seen. Their movements are to a great extent dependent on those of the shoals of sillacks, the staple of their food, the havoc committed among these young fish in the course of a season being something incalculable, causing mortal hatred on the part of the fishermen toward either species. In diving for fish, they commonly remain under water about twenty or twenty-five seconds, and will often go down very deep. It is curious to watch a flock feeding inshore, if one can succeed in escaping their observation; which, no very easy matter at any time, is rendered doubly difficult by the occasional officiousness of a Herring Gull, seeing you from aloft, and repeatedly sweeping down upon the Cormorants with a note of alarm. Now you may see one of them struggling with an eel a foot and a half long, and now another swimming hurriedly about in all the agonies of choking with too large a morsel, probably a flat fish caught in one of the deep dives. This choking process is far too well understood by the birds to attract any attention from the rest of the flock, unless, indeed, the tail of the unwilling prey be visible, when a disinterested friend will readily volunteer his services. Presently a heavy old bird will draw off from the fishing, for the best of all reasons, and, perching on a little isolated rock, will hang himself out for drying and digestion, remaining motionless with expanded wings for a whole hour together. An old Cormorant may often be seen sitting among the Shags; but if alarmed he will go one way on taking to the water and the Shags another, all diving the instant they touch the surface. A wounded bird is a very awkward antagonist for a dog, whether on land or in the water. Sometimes, on shore, it will throw itself on its back and fight like a hawk, using its sharp pectinated claw to good purpose; while, afloat, none but a very good retriever has any chance with it.

The Cormorant is very easily domesticated, and when treated with kindness will become exceedingly docile, exhibit-

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ing a very high degree of intelligence, and an amount of affection scarcely to be expected from a bird which in its wild state is remarkable for its extreme shyness of man. Some years ago a very young male was taken from one of the North Skerries and brought to Halligarth, where he soon became a most interesting pet. At first he required careful feeding, for it was some weeks before he became aware that opening his bill was the necessary preliminary to every meal. He would appear eager for food, and, uttering the usual peculiar cry, would strike at whatever was offered him, but with his bill closed, and in this manner he would have starved but for human aid. Afterwards he caused but little trouble, for when the Ducks were fed he would rush boldly in among them, and appropriate anything in the shape of fish or flesh that happened to suit his fancy, but he never would eat salted food. Sometimes, also, when he saw a boy coming to the house with fish, he would waylay him, and, if no contributions were then offered, he would speedily settle the matter by helping himself. One day, when food was scarce and he had been fasting for many hours, I happened to pass by carrying a number of Starlings, one of which I tossed at him, but scarcely with the expectation that it would be accepted. However, he caught it cleverly before it could reach the ground, and the next instant it disappeared down his capacious throat. Another followed, and was treated in the same way; then more, until no less than five had been thus disposed of. This number seemed to satisfy him; and the whole neck being now enormously distended, it was with difficulty that he waddled away to his favourite corner of the coal-shed, where I left him sitting, face to the wall, upon a lump of coal, the legs of the last Starling still projecting from the corner of his mouth. After this a bird was always a favourite morsel, and he would follow me for a long distance when I happened to be carrying a gun. Once I gave him, for a single meal, two Buntings, a Twite, a Sparrow, two Snow Buntings, and a Ringed Plover, and even then he followed me for more. Birds, fish, and mice were always

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swallowed head foremost. During the first two years he kept almost entirely to the ground, only occasionally sitting upon a stone or a low wall; but afterwards the roof of the house was preferred, from which elevated position he used suddenly to pounce down, either to rob a fish-basket or to scatter a company of feeding Ducks. But this was merely as a diversion, not as a necessity; for from the time of his first taking up his position on the roof he also began regularly to procure his own meals, flying to the voe for that purpose, and after remaining there for an hour or two, returning to his former station by the chimney. He never showed any desire to escape, but, on the contrary, he became more and more attached to his human friends. Strangers who attempted to handle him ran the risk of becoming acquainted with the sharpness of his mandibles, and of being scared by the unearthly croaking which always accompanied the bite. Being one of his especial friends, I was permitted to stroke and handle him with impunity, and he would even fly several hundred yards to meet me when I called him. The kitchen fire was his great delight, and he would bask near it for hours; but at such times it was imprudent to leave either fish or flesh within his reach. Once he carried off a newly-skinned rabbit, and at another time he attacked a living Duck, and even succeeded in swallowing the head and part of the neck before a rescue could be effected. He would sometimes extend his explorations beyond the kitchen, wandering through the passages as calmly as if the house were his own, but always betraying himself by the loud flap, flap of his great webbed feet upon the flags. For about the first year of his life the iris of the eye was of a brownish colour, then it became pale bluish green, and towards the end of the second twelvemonth bright emerald green. During the third year he rapidly acquired his adult plumage; but just as this was approaching its perfection he was unfortunately killed by an old half-blind dog, which in former days had been celebrated for its address in seizing and killing wounded Cormorants.

These birds nest apart from the Shag, at any rate in the

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North Skerries, and commence building somewhat later; but both species keep to the nest almost continuously after the first of the four or five eggs has been laid. The birds pair as soon as the white feathers begin to appear upon the thighs, the distinct white patch becoming fully developed about the end of February, and the first eggs are laid towards the middle of May. In specimens in full breeding plumage the bill has the upper mandible blackish grey, bluish at the tip, and pale along the edges; the lower mandible pale horn colour, becoming darker towards the tip, which is nearly black.

During the years 1869 and 1870 there were *two* Albino Cormorants about the west coast of Unst. It was in vain that I offered a reward for them, or for one of them, for they were far too wild to allow a near enough approach. As seen through the telescope, they were perfectly white, without spot or mark of any kind. Even the bill and the feet were light-coloured.

THE SHAG.

Phalacrocorax graculus.

SCARF—SCART.

Closely resembling the last species in its general habits, there are nevertheless a few points of difference sufficiently well marked; as, for example, the constant building of the nest a week or so before the Cormorant, and the far less frequent resort to fresh water. I have seen it, however, on fresh water near Burra Voe in July, and on the Loch of Cliff in January; and at the mouth of the burn of Burrafirth I once observed several Shags swimming, diving, and catching fish, probably sea-trout. I think also that the habit of washing and dipping is somewhat unusual with the Shag. The assertion that the Shag will not escape by diving, when approached by a boat, is altogether erroneous. I remember once coming suddenly upon five Shags among the skerries at the south end of Hunie, and having a race

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for life with them, my man pulling in a light boat close upon their track, aided by a wind in our favour, and yet being unable to get so much as a snap shot at them. I could not even get a distinct view of them; a splash in the water and a momentary glimpse of the back was all that could be seen. Indeed, had I not known the habits of the birds when closely pressed, I should have imagined that there were some large fish playing ahead of us. Again, when disturbed upon a cliff, Shags will seldom or never fly straight out, but will drop suddenly from their perch and make at once for the water, usually diving if a boat happens to be near them. Their mode of rising is curious, when a flock is merely put on the alert, as by the distant report of a gun, and is not hurried in its movements. Those which are to windward take wing first, then those next to them, and so on gradually, so that the last birds are not upon the wing until the first have proceeded far upon their way. It is common to see flocks numbering several hundreds, usually attracted by the sillacks. When a voe is taken possession of by a predatory horde like this, it is mostly the young birds that approach the shore, the old ones keeping outside, more scattered. I have shot crested Shags both in December and in January, and have repeatedly seen them in the middle of winter, though not so commonly as in the breeding season. By April nearly all the old Shags have paired, and may be seen sitting up in their nesting-places, the brilliant metallic-looking green and bronze of their plumage presenting a superb appearance in the sunlight. The first eggs are laid early in May, when the birds are to be seen carrying large pieces of seaweed to their nests in the cliffs. They generally build pretty near the water, but in ledges where the cliff overhangs; so that in order to reach the nests, one must either descend by a rope or make the attempt from a boat. They often lay as many as five eggs, and make a very large nest of grass and seaweed, which by the time the young are ready to leave becomes a fœtid rotten mass. Shags usually—perhaps always—build in company, and carry the whitening of their dwellings to such an extent that the cliffs

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in which they breed may be known at the distance of a mile or more. The eggs of the Shag are often covered with numerous small blood-like dots; indeed, nearly all that I have seen newly taken from the nest have been spotted in this manner—even those which were fresh laid. I am half inclined to imagine that these marks really are blood, and are caused by the rupture of small vessels during the act of laying; though why they should occur in these eggs more than in others I am not prepared to say. The thick crust of chalky substance with which, as is well known, the eggs of these birds and of the Cormorants are surrounded, must be soft when the egg is first laid; for it sometimes distinctly bears the marks of the rough soles of the bird's feet, and more frequently of the claws or of the stiff tail-feathers. The eggs of the Shag vary greatly in shape, some being roundish, others pointed at one end, and others, again, narrow and greatly elongated. The egg of the Shag is never eaten, even by the poorest of the people. The albumen has a greenish tinge, and is said not to coagulate readily, even after long-continued boiling.

One October day, at Haroldswick, I saw a Shag catch a large fish; and just as the last inch of the tail disappeared a Great Black-backed Gull made a stoop towards the Shag. The latter merely stretched out its neck and uttered about the most hideous sound that I ever heard proceed from the throat of a bird, whereupon the Gull, apparently in consternation, immediately turned tail and fled.

[To find a parallel to the abhorrence with which the Shag is regarded in the islands, one would almost need to point to a Highland keeper's detestation of the Hooded Crow. Certainly, if there be such a thing as caste among birds—and there is something very like it—the Shag is treated as the Pariah among water-fowl. It would not be very easy to put in words the precise points of difference in habits and general type which cause us to regard some birds as coarse and others as refined, but any one who has lived much with birds will readily apprehend the reality of the distinction. Compare, for example, a

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Shag and a Diver, or an Oyster-catcher and a Curlew,—birds closely similar in habits, but differing most entirely in the impression they give to one who is familiar with them.

I once saw a whole row of Shags hissing and making menaces in the queerest way, as we came close under them in a boat, in a very wild part of Shetland, holding their ground firmly until dislodged by an active young fellow of the boat's crew. They were defending the young, nearly fledged, which, by the way, bit and scratched like so many wild kittens.—ED.]

THE GANNET.

Sula alba.

It is often said that the Gannet habitually breeds in Shetland, but I very much question the accuracy of the assertion, even though I have repeatedly seen the birds in the breeding season upon the North Stack, upon which rock, as also upon the Outstack, they are thought by many of the fishermen to nest. The best local authorities fully agree with me in this matter. There is no time of the year, however, in which a few stray Gannets may not be met with. Sometimes a southerly gale will bring us a flock of them.

As a general rule, they do not care to come very far up the voes to fish, but one New Year's Day I remember to have seen several of them sailing about inland, attracted apparently by the flocks of Herring Gulls which were in the meadows. A day or two afterwards a boy brought me a living specimen which he had picked up near the beach at Haroldswick, and showed me his hand severely bitten in capturing it. On the following day, early in the morning, a woman brought me another Gannet which she had just found in the fields at Halligarth. She too had been bitten in the hand. The bird ran about outside the door without attempting to fly, but on my sending Robbie down with it to the beach it flew off easily as soon as he tossed it up. It was very savage, croaking

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hoarsely and biting at anybody who came near. At another time, one day in September, some boys brought a fine adult male which they had just caught upon the hill of Vallafiel, about half a mile from the sea. They said that, after making some slight attempts to escape, it turned and attacked them with its bill when they drew near. It was in good condition, and had apparently been in perfect health at the time of its capture; therefore it seems probable that the boys were correct in their statement that the length of its wings hindered it from rising upon the level ground. [That such is the case with the Swift is well known.] When I laid hold of it, it made a loud croaking noise, and struck at me viciously; and the stroke of a Gannet is a very nasty one,—never made with the bill closed, the endeavour being to combine a bite with a thrust. If the mandibles be tied together, the bird never even threatens with the bill. Once a Gannet was brought me which had been caught fast asleep on the grass at the edge of the loch of Watley.

Afloat, in smooth water, these birds may not unfrequently be knocked down with an oar; but whether this is from unreadiness at rising in a calm, or from being gorged with food, appears uncertain. It is perhaps going rather too far to talk of the absolute *inability* of any species of sea-fowl to rise from perfectly smooth water, but certainly my own impression is, that the so rising would be an extremely difficult matter for a Gannet if there should chance to be no wind at the time. I have known one, in sound condition, when surprised inshore under such circumstances, positively make for the land rather than attempt to fly, awkwardly endeavouring to scramble up the slippery rocks, and so falling easily into the hands of its pursuers. Not, however, that a Gannet is always an easy bird to get hold of. I have known one, when wounded, after a long chase upon the water, turn upon the boat when within a few yards, and with open bill and hideous croaking sound come rushing on, aided by wings and feet, not stopping till it had run its bill against the bows of the boat, pecking fiercely, and attempting to bite when taken in the hand.

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I have often been astonished at the height from which the Gannets will drop upon a fish, and the certainty with which they seize their prey. They very rarely miss their stroke, descending with such force that some seconds elapse before they reappear. After long and careful watching, I feel quite sure that the Gannet never throws itself upon its back before plunging, the movement which often looks like it being merely a sudden turn sideways. The flight is so rapid, and the pause before the plunge so abrupt, that the mark is occasionally overshot; in which case a slight but sudden turn backwards or to one side is obviously needed. After submergence, the bird usually sits for a while upon the surface, rising on wing head to wind, not with any great rapidity at first, unless in rough weather, seeing that under ordinary circumstances it is compelled to strike the water with its feet, as the Cormorant does, in order to get under way. It sits buoyantly upon the water, and appears never to take a fresh prey without previously rising on wing. The flight is performed by means of a series of strokes alternating with a steady sailing motion.

Gannets are exceedingly troublesome to skin. A pure white plumage is in any case very liable to be soiled, but it often happens in these birds that large quantities of blood will collect in those remarkable air-cells which lie immediately beneath the skin. In the recent specimen the bill is of a very pale bluish grey, the lines upon it varying from a light indigo to almost black; the eye is white, tinged with dull straw yellow; eyelids and bare skin about head pale indigo. Feet and legs brownish black, the scutella bluish green.

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IV. *LARIDÆ.*

THE ARCTIC TERN.

Sterna arctica.

TARROCK—PICCATARRIES.

This species is plentiful throughout Shetland, usually arriving in Unst about the third week in May, though sometimes earlier, and leaving towards the beginning of September. It occasionally happens that a small party of Terns will suddenly appear some weeks after the islands have apparently been altogether clear of them, but these pass on at once, not, indeed, staying over the day.

After the arrival of the Terns in spring they seem to be fond of keeping about fresh water for a week or two, possibly finding some favourite kind of food at that season. The small loch in front of the house at Halligarth was thus resorted to every year by a single pair, which would remain for several weeks, but which never bred there. Young trout were abundant in the loch, and I thus had continual opportunity of watching the process of capture. The birds always appeared to know how deep the water was over which they were hovering on the look-out for fish. If there was plenty of water beneath them, they would dash down upon their prey with sufficient force to bury themselves completely out of sight, nearly always reappearing with a fish in the bill. In the shallower parts of the loch they would be more cautious, and drop only from an inconsiderable height. They took good care to keep off any poachers from their preserve. I once saw them fairly beat off even the tame Great Black-backed Gull which belongs to Buness, as he was going to the loch for his morning dip. Indeed, the Terns are among the bravest of little birds. I once saw a single Tern attack and put to flight a Raven which happened to pass near the holm at Helyer Water, where the Tern

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appeared to have a nest. The drowning of the Hooded Crow by the Terns of Hunie has already been related in the notes upon that species. Indeed there are very few birds which defend their breeding-grounds more tenaciously. Two or three of them will make straight for a great gull some five feet across the wings, and send him off almost distracted with their screaming into his very ears. They usually nest in company, and no sooner does a human intruder appear than the whole of the birds rise and hover above his head, uttering their well-known cries, and not ceasing to show their displeasure until he has left the spot. So likewise a perfect mob of them will gather round a wounded Tern in the water, almost hustling the shooter as he picks it up.

A favourite situation for the deposition of eggs is a sandy or gravelly beach, or a ledge of a rugged bank which has been broken by the winter gales. In such places the eggs are merely laid in a hollow scraped out by the bird; but if the soil of the bank happens to be wet, a small quantity of gravel is interposed. Often, however, the eggs are laid among the short grass further inland, and then the hollow is almost always found to contain a few pieces of dead weeds or dry grass by way of lining. Occasionally, as at Hunie, the spot selected is the dry gravelly soil among stones and rocks some distance from the beach. In such situations I have seen hundreds, perhaps thousands, of eggs, but only in a few instances have I seen any attempt at lining to a nest.* The Tern is a late breeder, eggs being seldom found before the middle of June. There is great variety in the markings of the eggs; some are finely spotted, others are largely blotched; in some the ground colour is pale bluish green, in others it is deep

* The Arctic Tern will often nest upon the bare rock, if nest that can be called which consists of a broken egg-shell and a couple of young birds, lying on the flat surface of a skerry just clear of the wash of the water. In such a position I remember to have seen one of the little creatures in the very act of emerging from his cradle, while his elder brother sat looking at him in a whimsical fashion, being himself only a little squab of down with a few dark spots about him and a big pair of eyes.—Ed.

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brownish olive. In the same nest I have seen eggs differing considerably in ground colour,—dull olive green in one case and olive brown in another,—each covered with small spots of dark brown and neutral tint. The average measurement is one inch seven lines by one inch two lines.

The food of the Tern is chiefly small fish, but the stomach often contains beetles, moths, and various other winged insects, in pursuit of which whole parties of these beautiful birds may occasionally be seen skimming above the pastures on fine summer evenings.

[For any one who would see the Arctic Terns really at home there is nothing to compare with a visit to the Vie Skerries, a singularly wild and interesting cluster of low rocks in the open Atlantic, some miles out from Papa Stour, on the west coast of the Shetland mainland. Here they abound, in company with other sea-fowl,—rarely, indeed, disturbed by the presence of man; and so thickly is the surface of the little flat islets strewn with their eggs, that it is in some places difficult to walk without crushing them, in the bewilderment of the mobbing with which the visitor is greeted. Here, too, the seals rise close to the rocks, and gaze at you with their calm, searching eyes. It would be hard to find any place that equally gives you the sensation of having by accident got into another planet.—ED.]

THE BLACK TERN.

Sterna fissipes.

One single example of this bird is on record as having been seen in Shetland. It was observed by Thomas Edmondston a few years prior to 1844, as recorded in the "Zoologist" for that year, p. 466. The Black Tern does not appear to have been met with in Orkney. It must necessarily be an extremely rare visitor to the islands, or from its marked individuality it would have attracted notice.

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With the solitary exception of the bird above referred to, no other Tern than *S. arctica* has, to my knowledge, ever occurred in Shetland.

SABINE'S GULL.

Larus Sabini.

On New Year's Day 1861, I was stalking some Wild Ducks which were upon the ice in the middle of the Loch of Cliff, and had just shot one of them with a ball, when a Gull came up, and sailed round me repeatedly, keeping about twenty feet above my head. It was a good deal like a Common Gull, and first attracted my attention by the jet black colour of its legs and feet. The bird was unquestionably Sabine's Gull; but it was far out of reach by the time I had finished loading.

[It would hence appear, as might be expected, Mr Yarrell is right in surmising that in winter plumage the black head-dress is absent, as in the other members of the *Xema* group.* The author was well acquainted with the Ivory Gull, the only less rare alternative with black legs. He would seem to have met with a second example of *L. Sabini* in Shetland, Mr Gray ("Birds of West of Scotland," p. 473) quoting a note of his in 1865 to that purport. There is no mention of it in the journals; but the notes for the year 1862 are unfortunately not to be found.—ED.]

THE CUNEATE-TAILED GULL.

Larus Rossii.

[In dealing with a bird so peculiarly scarce as *L. Rossii*, the always imperative obligation to be careful as to the soundness of evidence adduced becomes doubly binding. I shall therefore content myself with laying before the reader all the testi-

* It would appear that in every British species of *Larus* proper there is a tendency toward darkening about the head in the winter plumage. In the so-called genus or sub-genus *Xema* it is in the summer that the darkening occurs.—ED.

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mony to the occurrence of this bird in Shetland that can now be found, and leaving him to form his own conclusions.

In the "Zoologist" for 1861 a visitor to Shetland stated—(here again, by the way, omitting any allusion to his authority)—that a Gull, the plumage of which was tinged with rose colour, was shot some years before in Unst, possibly belonging to this species. Later, in the same volume, the author, writing from Shetland, contributed a note, saying of the bird in question, "it was shot by me seven years ago, but, under the impression that it was merely a variety of some other species, I foolishly suffered it to be lost. However, I made a few rough observations upon the singularity of its plumage, but having left my note-books in England, I am at present unable to throw further light upon the subject."

One other item of evidence is the mark against the species in my brother's copy of Mr Newman's List of British Birds (ed. 1870), as occasional, and seen by himself.

The testimony is evidently of a much less decisive character than could be wished, if the bird is to have a recognised place on the Shetland list. Nevertheless, the last-mentioned mark sufficiently indicates the author's mature opinion, most likely after reference to the note-books in question. I may also add, though personally unacquainted with the species, that if its diagnosis involve delicate shades of colour, my brother's recollections are entitled to especial weight, from the quickness and accuracy of perception in such respect, for which he was notable from his childhood.—ED.]

THE BLACK-HEADED GULL.

Larus ridibundus.

This well-known species remains in Shetland throughout the year, frequenting the small lochs near the sea. None of the Gulls is so fond of coming inland, nor does any seem so partial to fresh water. Sometimes in winter a few of them

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will join company with a little group of Kittiwakes, which have not gone south for the season, and may be seen swimming with them in the voe. The cry is not unlike that of the Arctic Tern.

In the stomach of the Black-Headed Gull I have found small snails, earth-worms, and fine roots of plants.

THE KITTIWAKE.

Larus tridactylus.

WAEG.

This most engaging of all the Gulls does not return to Shetland from its winter haunts with the exactitude of the punctual Puffin, being in some years seen early in February, and in others not appearing until March has well set in. For several weeks after their arrival the Kittiwakes keep almost entirely to the water, and then they take to the cliffs, the first eggs being found toward the latter part of May, though I have known seasons in which the first week of June has passed with the newly-finished nests still empty. By the middle of August they have for the most part left the cliffs, and collected in flocks of prodigious size, and soon all are gone, with the exception of the comparative few which intend to stay the winter. These latter form little groups or parties, sometimes rather numerous, and show a tendency to keep at some distance from the shore. The sound between Balta and the voe is a favourite resort of theirs at this season.

There are few prettier sights for a naturalist than a flock of Kittiwakes feeding in a secluded Shetland voe. The birds will hover above the water for a few seconds, and then dash suddenly in, almost always going right under out of sight, and will then rise lightly and easily, the wings appearing first, raised above the back. They always fish to windward, and never, so far as I know, plunge with their back to the wind; and in consequence of this habit they gradually work their

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way through a shoal of fish, coming out on the weather side of it. Then they make a wide sweep, either seaward or inland, and begin once more on the leeward margin of the shoal, working up the wind as before. One day, as I was watching the Kittiwakes thus engaged, a great horde of Shags came up, numbering several hundreds, and settled in the water, whereupon the Kittiwakes at once flew away, few decent birds liking to be seen in such company. They are remarkable for keenness of sight, even among the Gulls. I have seen one flying steadily along, at a hundred yards above the water, suddenly sweep downwards, and pick up a sillack in its bill.

A visit to the Kittiwakes at home is no less interesting than a study of them upon the voes. They delight in building upon the ledges of the highest and steepest cliffs, and in the breeding season form a charming adjunct to the wild and beautiful regions of their choice. When seen from the water, sitting in myriads, rank above rank, on the face of the Burrafirth "banks," or on the magnificent escarpments of the island of Noss, they suggest rows of closely-set lamps at an illumination, so continuous are the lines. As may be inferred, the nests are often very difficult of access, and he who would see them to advantage must be prepared to crawl upon his hands and knees along the ledges, with the water perhaps a couple of hundred feet below him, or occasionally to worm his way, face downwards, with his heels several inches higher than his head, the overhanging nature of the rock above rendering impossible any other mode of progression. The nest is usually upon a narrow shelf, not often less than some forty or fifty feet above high-water mark, and is made up of dead plants and seaweed, rather substantially put together. The eggs present considerable variety of colouring, sometimes being of a pale, clear greenish blue, or again of a warm stone colour, with a zone at the large end of umber brown, brownish grey, and purplish grey spots; the usual colour is pale brownish or bluish white, tinged with green, more or less spotted or blotched with reddish brown and brownish grey, with a tendency to a zone, as above

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described. The average measurement is two inches two lines by one inch seven lines; but I once had a specimen brought to me, perfect in colour, which measured only one inch four lines by one inch one line.

In the months of June and July great numbers of Kittiwakes may be seen flying backwards and forwards between their nests at Burrafirth and the loch of Cliff, apparently to feed on the aquatic weeds and confervæ growing upon the stones in the fresh water. I have shot them on the way back, to ascertain the object of their journeys, and have never found anything in the stomach but these green water-weeds. At times I have found in them the remains of small beetles, but fish and fresh-water algæ, when the latter are to be had, seem to be the staple of their diet.

The young birds do not breed during their first year, and are known in Unst as "yield" Kittiwakes.

[With regard to this, Thomas Edmondston says ("Zoologist," 1844, p. 465), "A few birds remain during the winter; these differ from the summer state in having the back of the head and a spot behind each ear pale greyish blue. In this state the Kittiwake is vernacularly termed '*craa-maa*' or Crow-Gull, and it is also called '*yeeld*' (or barren) Kittiwake."—ED.]

IVORY GULL.

Larus eburneus.

The first recorded observation of the Ivory Gull in the British Isles was in 1822, when Dr Laurence Edmondston met with it at Balta Sound, as mentioned in the "Memoirs of the Wernerian Society," vol. iv. p. 501. Another specimen is reported by his son to have been killed some years prior to 1844, and to have been seen by himself when fresh. On the 16th of January 1861 I saw an Ivory Gull at the head of the voe at Balta Sound, swimming about catching sillacks. It was very nearly pure white, but there were a few greyish marks

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about the head. I was within twenty yards of it. In the latter part of May, in the same year, a whaler which had sprung a leak put into the voe, and the surgeon on board, Mr White, kindly gave me the skin of a bird of this species which had been shot only a few days before. It was in perfectly white plumage, and had the tip of its bill red, the remaining portion greenish grey.

[A search in the journals has not shown any other notices of this bird; but there can be no doubt that, though in any case a decided rarity, it is a tolerably regular visitor to the islands. In the "Zoologist" for 1864, p. 9094, the author says, "I have only seen one Ivory Gull this winter." A specimen of this Gull was shown me in the summer of 1854 on board a whaler which had anchored in the Sound to land some Shetland seamen, and this too was stated to have been very recently killed; nor do I feel at all sure that it was not in the flesh. Naturalists visiting Shetland would do well to bear in mind that the islands are not so cut off from all the rest of the far north as might seem, many whalers calling every season to land the Shetland portion of the crew—among the finest seamen in the world, by the way. Thus, in the case of an Arctic species, scarce in the British Isles, the procuring the skin of a bird in Orkney or Shetland by no means warrants the certain inference that the bird itself was found there. I do not know whether whalers call now, for the world has changed much in twenty years, but it may be as well to remark, for the benefit of some brother in need, that if one is short of powder or percussion-caps, a supply of the very best of either, surplus stores from the seal-shooting in the Arctic regions, may sometimes be had on board these ships by the courtesy of the captain. What a pleasant run it was on that fine summer's day! We landed on Balta in the ship's boats, our own having been so knocked about under her quarter in boarding in a sea-way, that the carpenters kindly took us in hand for repairs; and it was indeed a sight to see the fine fellows leap out upon the beach, and roll over and over upon the green sward of the charming little island,

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clutching at the blades of grass, and eagerly plucking every tiny flower, so delighted to be ashore again after a couple of years among the icebergs. And then on the way back there were the little square blocks of turf, stowed away so carefully at the end of the thwarts, that the men left on board might see and touch the real green grass once more. In those days the only tenants of Balta were the birds and beasts,—fishes, too, by the way, albeit headless and split and briny, on the curing beach; and then there was that particular rabbit the good captain had set his heart upon, which would bolt into its burrow before he could pull the trigger; and the production of a new pound tin of Curtis and Harvey, which was to be laid in the mouth of the burrow, and fired with a short train, that the rabbit might be compelled to bolt out out again at the other door,—which it doubtless would have done effectually enough. However, this is not ornithology.—ED.]

THE COMMON GULL.

Larus canus.

SMALL MAA—BLUE MAA.

The habits of so familiar a bird are too well known to all sea-side observers to render needful any lengthened notice of it here. It is of course plentiful in Shetland, where the young broods usually begin to appear in the early part of July, but are often to be seen well fledged by the middle of the month. I have studied the nesting habits of the bird rather carefully, to detect points of difference from the Lesser Black-backed Gull. With regard to the nests themselves, they are on the whole somewhat neater than those of the last-named bird, the materials being the same, namely, dry grass, seaweed, heather, moss, carex, sea-pink, &c., though finer, and built together a little more substantially at the edges: the hollow is about six inches across. The quantity of material used in the construction of the nests is smaller where there is much grass or heather

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growing round them. A favourite site for the nest is a grassy slope facing the sea, not very far from high-water mark. One such spot known to me happens to be enclosed by an old ruined wall, and is much resorted to by this species as a breeding-ground, some nests being among the loose stones outside, and some, a dozen or so—inside close under the wall. Here I have seen three eggs in a nest, all chipped, in the act of hatching, the birds within the egg making a shrill chirping noise. Almost as soon as they are hatched they leave the nest, and I believe that they always run towards the sea. These newly-hatched birds will hide among grass or in any inequalities of the ground, to escape notice, and will snap smartly at a finger presented to them.

For the convenience of any who may like to compare the young from some other locality and climate, I give a description of the newly-hatched bird. Whole length, about four and a half inches; bill, half an inch; tarsi, eight lines; middle toe and claw, eight lines; bill, dull flesh colour at point, remainder dark brown, with a tinge of reddish purple; upper surface of body, dull light yellowish grey, with indistinct dusky mottlings; head, paler, with well-defined black spots; under surface same as upper, but without any marks; upon the wing a black spot. Like the young of the Lesser Black-backed, which it very closely resembles, it has a spot in front of and one behind the eye, but it differs in having also marks immediately above and below the eye; these marks are absent in the Lesser Black-backed, and afford an unfailing indication of the species in a comparison of the two.

One day in December 1860 I shot a miniature specimen of the Common Gull, an adult male in full plumage, but so curiously small as to in those days set me wondering whether my studies in Shetland were destined to establish the existence of a smaller species, which should be to *L. canus* what the Lesser Black-backed is to the Greater, or what the Iceland Gull is to the Glaucous. The fancy came to nothing, however, as time went on. The bird was only fourteen and a half inches

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in length, or exactly as long as from the carpal joint to the tip of the longest quill in an ordinary specimen.

The Common Gull is a great feeder on earth-worms, slugs, and such like produce of the land, rendering essential service to the tiller of the ground alike in field and garden. Whether it be over the land or at sea, these birds are very ready at backing one another up in any trouble, hurrying together to the rescue, and beating off an intrusive Sparrowhawk or Arctic Skua with great courage, their loud yelping cries giving much animation to the scene.

The colours of the bare parts are as follows:—Adult male (end of March)—eye [dark brown]; edges of eyelids and angles of mouth, orange red; bill, dull greenish yellow, with a dusky stain near the angle of the lower mandible; legs and feet, dull greenish yellow, darker between the scales; claws, blackish grey, paler at the base. In the female the colours are the same more stained with dusky.

THE ICELAND GULL.

Larus Islandicus.

The explorer in Shetland must bear in mind that the *Iceland scorie*, of which he may chance to hear, is not this bird, but its greater congener, the Glaucous Gull. Apart from the difference in size, the two bear a very close resemblance to one another, save only that the present species is relatively longer in the wing. For the first introduction of both one and the other to the British fauna we are indebted to the early researches of Dr. L. Edmondston, which did so much in their day for the elucidation of the natural history of the northern parts of the kingdom.

The present species is much less frequently met with than the Glaucous Gull, and indeed may be called comparatively rare. It is a regular winter visitor, however, usually taking its departure toward the latter end of March, though I have upon

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occasion seen a straggler as late as May. At any distance it may be readily recognised by its acutely pointed and somewhat long white wings, and by a peculiar roundness of body. The note also has a character of its own, somewhat resembling that of the common Goose. The bird seems to be partial to vegetable food, often resorting to the fields, where it may not seldom be seen near the pigs, which in Shetland are tethered by long ropes fastened to a stone or to a stake in the ground. Possibly the earth-worms rooted up may be an attraction. In the stomach I have found a considerable quantity of oats and vegetable fibre, with numerous small pieces of quartz.

The Iceland Gull has never been known to breed in the Shetland Islands.

THE LESSER BLACK-BACKED GULL.

Larus fuscus.

SAID FOOL.

In Unst this Gull breeds in countless numbers during the early summer, but entirely deserts us in autumn, and is not seen until the following spring, the first days of April commonly bringing it back again. The occurrence of so much as a single specimen in the winter time is exceedingly rare. Indeed, I have in my journals but one solitary note of its having been met with at that season by an observer on whose accuracy implicit reliance could be placed. The bird in question was shot by my brother-in-law on the 29th of December 1864, at Swina Ness. It unfortunately fell into the water, but he had an opportunity of comparing it with a Greater Black-backed which came and hovered above it, and also at the moment of firing was quite sure what the bird was. I cannot say whether it thus completely forsakes every part of Shetland, but so total a disappearance from the North Isles is remarkable, seeing that it remains all the year round in Orkney, where, indeed, it is even more plentiful in winter than in summer.

The breeding grounds are chosen, for preference, among steep

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grassy slopes, freely covered with rocks and large stones, in the immediate neighbourhood of sea-cliffs, the birds often forming a colony apart from other species. Upon an intruder approaching one of these colonies, the bird nearest to him will rise and circle about his head, calling to wing the whole body, which will hurry up and follow him with loud and repeated cries, as long as he remains anywhere near. The young very soon leave the nest, and run about among the grass and stones, most jealously watched over by the old birds, which are far more careful of them than of the eggs, becoming much bolder in mobbing one who comes too near. Single pairs, however, will build wherever they find a place to suit them, affording better opportunity for studying their ways than when in a noisy colony. In the nesting time the birds have a habit of now and then making a rapid downward sweep, and skimming very close over the nest, when one has disturbed them by a visit of inspection, and is watching from a distance.

The Lesser Black-backed Gull begins to lay somewhat later than the Herring Gull, but the eggs of the two species are so much alike that it is next to impossible to identify them unless the birds themselves have been seen at the nest. Upon the whole, however, the eggs of the Lesser Black-backed are rather smaller and more finely spotted; they are also subject to very great variation both in size and colouring, and not seldom in shape likewise. The ground colour may be either olive brown, olive green, or stone colour, all of which run through an immense variety of shades. Some eggs are blotched, others streaked, and others blotched and streaked both, the markings being brown and grey of almost every tint; the dark green eggs are not often streaked. Occasionally there is a well-defined zone of confluent spots of brownish grey and intensely deep brown, upon a ground of bluish olive green—a very handsome variety. In number the eggs do not appear to exceed three, the usual number in this genus.

The nest is built of dry grass, sea-pink, &c., as mentioned in the account of the Common Gull, with sometimes a little wool,

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and now and then perhaps some bits of dry sea-weed. Occasionally, when the birds are building on the grassy ledges of the sea-cliffs, the earth is scraped away to receive the nests, but I have seen the egg upon the bare rock, merely surrounded by a thick ring formed of dead plants and short dry grass, which alone prevented its rolling off. This, however, was very early in June, with a great number of unfinished nests close by; so that it could scarcely be regarded as a completed work.

For many years of my residence in Shetland, I used to see daily a Lesser Black-backed Gull which had been long domiciled at Halligarth, not showing the smallest restlessness or desire to accompany her fellows at the time of the annual migration, which takes place in August. The bird was a female, taken from the rocks when very young, and placed in the garden, where she lived summer and winter without attempting to escape. A slight injury to one wing prevented her from flying, but the door might be left open for hours at a time, or snow might be lying on a level with the walls, and yet she would never pass their limits. Although so long in human society, no amount of kindness seemed to make the smallest impression upon her. Any one approaching her was sure to be attacked, even those who carried her food being subject to the same ungracious treatment. Almost anything eatable seemed to suit her appetite, even oatmeal porridge not being refused; while fish, raw meat, birds, and mice would never come amiss. Somewhat later in the breeding season she used regularly to scrape out a rude sort of nest, and would sit most perseveringly in it for several weeks; but if eggs were introduced while she was away feeding, as they repeatedly were, she would upon her return invariably break them with her bill, and swallow most of the contents. One winter, during a long-continued frost, she was attacked by two Hooded Crows, but compelled them both to retreat, though not until after a terrible battle, in which she nearly lost her life. The bird was found dead one fine April morning when within a year of completing her quarter of a century.

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Lesser Black-backs do not acquire their adult plumage until the end of the third year; a bird a year old has the back mottled with bluish black and various shades of light brown. In the specimen above alluded to the head used to become spotted with light brownish grey toward the end of September, continuing in that state until the end of the following February. This is always the case likewise with the Greater Black-backed Gull, which resides with us all through the year. No mention is made by Mr Yarrell of this winter modification of the plumage in either species.

One day in the middle of June I saw one of these birds sweep along the hillside and carry off in its bill what must have been a young Ringed Plover, for an old bird of that species immediately gave chase, at the same time uttering loud and anxious cries. Such an event is no doubt of far too common occurrence.

In the adult male (July 6th) the eye is straw yellow; edges of eyelids vermilion, tinged with yellow; angle of mouth, orange red; bill rich gamboge yellow; from a little behind the angle of the bill to nearly the tip, vermilion; a smaller and fainter patch immediately above it on the upper mandible. Feet and legs gamboge, *not* becoming paler upwards, as Macgillivray states. Claws deep brownish grey.

In the female (June 30th) the eye is pale straw yellow; edges of eyelids, orange red; bill yellow, the angle vermilion; legs and feet, dull pale yellow; claws black.

THE HERRING GULL.

Larus argentatus.

WHITE MAA.

Vigorous, vigilant, bold, and active, the Herring Gull, so well known on all our coasts, may be accepted as the most truly typical of all its tribe. Unlike the Glaucous, the Iceland, and the Ivory Gulls, it shares with the hardy Shetland fisher-

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men the sunshine of their too short summer; and, unlike the Lesser Black-backed and the Kittiwake, it stands by them through all the tempests of the long winter. The first bird astir in the morning, and equally at home afloat, ashore, or soaring high in the air, the "White Maa" is an element in Shetland life and scenery without which much of its character would be lost.

In the winter the Herring Gulls form large flocks, coming inland freely, sometimes with a few Glaucous Gulls in company. Wet weather is almost sure to attract them inland, and I have noticed that they as often as not come in before the rain has appeared. Their visits to the fields are, however, not always for the benefit of the cultivator, much good though they may do in the winter and early spring by destroying the worms, grubs, &c., turned up by the plough; for a casual scarcity of fish will cause them to resort to the turnips, where they will in a short time do the most serious mischief. I have known a large field of turnips half destroyed by them, the roots being scooped quite hollow. They seem to dislike the outer portion, interfering with it as little as possible, and only removing enough to enable them to reach the softer parts within. Sometimes a Gull may be seen with its head completely hidden inside a turnip, but, as if conscious of its danger, constantly withdrawing it, and casting a glance all round, to guard against a surprise. It must be owned also that they take a heavy fee for the service they render in following the plough, for they return to the field when it is newly sown, and pick up every grain of oats or barley left uncovered by the soil. It has been said that, in consequence of this habit of grain-feeding, the coats of the stomach become unusually thickened in spring. This may be true, but among most of the sea-birds which I have examined there has been great irregularity in this respect. In the Herring Gull especially they have been as much thickened in autumn as in spring, and again in the latter season they have been unusually thin. The flocks of these birds which sometimes whiten the lawn at Halligarth long before

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sunrise in the early summer, appear to be chiefly attracted by the small grey slugs which abound before the dew leaves the grass. About noon, after a hard morning's work in the fields, flocks of Herring Gulls visit the fresh-water lochs, where they will remain for hours dipping and trimming their plumage.

Like most of its genus, this bird will readily feed on carrion, being seldom unrepresented in the motley assemblies which may be seen gathered round the carcase of some unlucky pony or sheep in winter. At such a time I have seen a mixed multitude, numbering nearly two hundred, thus engaged, comprising Greater Black-backed, Glaucous, and Herring Gulls, Ravens, Hooded Crows, and a few Starlings, all minor differences being sunk in a hard season. One autumn, a Herring Gull took a fancy to paying us a regular visit, for no discoverable reason except that it was sharp enough to strike out a new line of life for itself, in which the maximum of food might be got with the minimum of trouble. For some weeks it was to be seen at almost all hours of the day, either searching for scraps upon the dust-heap or sitting, half dozing, upon the wall close by. At first very wild when approached, and cautious, it soon learned to tolerate me within ten yards, and often gave me much amusement by its dexterity at stealing piltacks from the row which usually hung near the kitchen door. It would sail round for a little, and then make a rapid sweep close along the wall, and snatch a fish from the line, and go off in triumph. One day, as the tame Crow was endeavouring to steal a small fish from the cat outside the door, this bird was seen to sweep down and carry off the object of the contention while the two were quarrelling and scolding. During the herring season, it is this species in particular that takes as one department of the day's work the careful examination of the herring nets which are spread out to dry, picking off anything in the shape of food which may remain in the meshes. It will also feed upon crabs, star-fish, and echini.

Herring Gulls have a peculiar mode of following a shoal of

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fish, circling over it in such a manner that the flock takes the form of a revolving hollow cylinder. The time to see them to perfection is when a cloud of them is coming up the voe in attendance upon boats returning from the *haaf*, or deep-sea fishing. There are few more beautiful sights on a bright breezy morning. Any one who would like to thus pass an hour or two in the midst of a flock of Gulls upon the wing must nevertheless be prepared to find the boat's attractiveness considerably less for himself than for the birds, the odour and the dainty bits so tempting to them being rather dreadful to humankind. There is also a convenient old prejudice, that it is not lucky to keep a boat too clean, even were it easy so to do when the offal is removed from the fish on the way home.

There are few more vigilant alarmists than the Herring Gulls, a sort of universal benevolence seeming to possess them when one is trying to steal upon other birds unperceived, or is lying in wait for a shot. Many a Wild Duck have I lost, made aware of danger by the loud and well understood cry of the White Maa overhead. Nor is it thought enough merely to give a warning note in passing; if the cry be not heeded, the Gull will, at much danger to itself, sweep down to the threatened bird—a Heron, for example,—and fluster it into taking wing. Indeed, in many ways an observer who lives much among the sea-fowl learns to appreciate the abundant life and vigour of the Herring Gull. One February day, upon the south side of the voe at Balta Sound, I was watching a flock of these Gulls feeding upon some sillacks which had been thrown outside a cottage door, when a Raven came down and flew off with his share. Upon this the Gulls raised a great clamour, and one of them, an old one, started away in pursuit of the thief, and not only compelled him to let fall his booty, but also chased him for nearly a mile, the delinquent all the while crying out as though he were being murdered. I have also seen a pair of them chase a Hooded Crow, force it to drop what it was carrying, and immediately pounce upon the spoil and appropriate it to themselves. Possibly in such a pro-

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cedure they find some consolation for their own frequent discomfiture, in precisely the same way, at the hands of the Arctic Skua, which leads them a sad life at times, plundering them with impunity. Occasionally also the Herring Gull would seem to fall in with a far sterner foe than the merry little *Shooi*, for I have seen a Peregrine Falcon seated upon a great stone at Swina Ness, with the ground all round it strewn with bones and feathers, among which the remains of first year's birds of this species were to be distinguished, though Sandpipers of various kinds had formed the staple of the food.

I was once witness to a curious freak, if so it was to be called, on the part of this bird, for which I could never find a satisfactory explanation. It happened in the island of Uyea that a friend and I, in walking round, disturbed a large flock of Herring Gulls which were upon the grass, under the lee of a high wall. All rose but one, and that one appeared to be unable to fly, and we easily ran it down. After examining it, and finding nothing the matter with the bird, we let it go. When it had run about two hundred yards my companion thought he would try a shot at it with ball. He struck the turf about a foot on one side of it, and instantly, to our surprise, up got the Gull, and off it flew to join the others. This was in the beginning of May, a week or two before the first eggs are usually found.

The nest of the Herring Gull is usually placed upon a grassy ledge among the cliffs, the birds sometimes scraping away a little of the earth or loose stones to afford additional security. The materials used are dry grass and such plants as can be procured in the neighbourhood, worked up into a somewhat substantial structure. The eggs are three in number, and where four are found in a nest, as sometimes happens, I have every reason to believe that the additional one has been deposited by a second female. The variations in colouring are so many as to render almost impossible an accurate discrimination between the eggs of this species and those of the Gull last described. On the average, however, the eggs of the Herring

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Gull are a trifle larger, with bigger markings; not that this latter indication is by any means very trustworthy, for I have seen them minutely and evenly dotted all over with pale olive brown and still paler purplish grey. An egg no longer than a good-sized pigeon's egg was once brought to me, taken from a nest in which were two of the ordinary character. It was marked in the usual way, but had no yolk. A rather common variety is of a pale bluish green, with a few scattered spots of pale neutral tint. When the nest has been robbed the bird will sometimes lay even a third set of eggs, but these, as is usual in such cases, are much lighter in colour. One of the most curious specimens of the egg of this bird that ever came into my possession was elongated and not perfectly symmetrical, measuring as much as three inches in length, and slightly narrower than is usual, with peculiarities in the colouring also.

Young birds only a few days old may be occasionally seen about the cliffs as late as the first week in August, and as winter comes on they join in the large flocks with the adult birds, gradually acquiring their cry, though even in early spring the difference in the notes is perceptible enough to a practised ear. It may be remarked by the way that in early spring the Herring Gull is very much given to calling loudly and flying very high, sometimes soaring and circling up to a vast distance above the ground or the water. At this time also they feed almost entirely upon grain, if they can get the chance, and are said to be excellent eating.

THE GREATER BLACK-BACKED GULL.

Larus marinus.

BAAGIE.

Another constant resident in Shetland, this grand bird is, as it were, the king of the whole genus. Only equalled in size by the Glaucous Gull, it may be seen at all seasons and in all

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weathers, soaring far overhead, its deep firm note dominant over all the jangle of the cliffs. It is commonly seen in pairs or in small parties, the wide expanse of wing, often exceeding five feet, rendering it conspicuous wherever it goes.

None of the Gulls approaches so nearly in its habits to the raptorial birds. It resembles them even in its ways of skimming along the hillsides in the summer-time in quest of what may be about, and like them will sometimes sit for a long while motionless upon an isolated stone. I have repeatedly known it pounce upon birds in trouble. For example, one November day, as I was lying concealed behind some rocks waiting for a wounded Golden-eye which had alighted in the water, and was letting itself drift with the tide, three Great Blackbacks came sailing over, and to my great surprise one of them made a sudden stoop at the wounded bird. The Duck tried to dive, but was unable, and the Gull instantly seized it by the upper part of the neck, rose with it a few feet, and let it fall again into the water. Another of the Gulls then repeated the same process twice, and when the unfortunate Duck lay motionless upon the water, apparently dead, all three took to charging at it with their bills, tearing out the feathers at each stroke, and paying not the smallest attention to my shouts, only going off when I fired a barrel in their direction to scare them away. On another occasion, at the Flugga lighthouse, a Storm Petrel which had been but slightly injured by flying against the lantern, and had been kept alive for some days, managed to make its escape. As it descended towards the sea a Great Black-backed Gull dashed forward, and seizing the poor little thing in its bill, disappeared with it in the cliff beneath. This was witnessed by two persons whose word may be relied upon. I have also seen it swoop down upon a Shag, to claim its share of the fish which was in process of being swallowed; nor must the Shag itself be altogether sure of its ground upon such occasions, for this powerful Gull will even at times go so far as to devour a young Cormorant, as I can testify from personal observation. It is also a great carrion

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feeder, and is commonly said by the Shetlanders—I know not with how much accuracy—to be the only sea-bird that will "touch the human;" that is to say, meddle with a human body cast ashore or afloat. A man who had climbed to the nest of a pair of these birds, to take the young, found a human thumb which had been brought there as food. I can quite believe the birds to be capable of performing the amputation with ease, when I remember how deeply a wounded bird of this species once bit me through the boot.

This Gull is a great alarmist, continually putting up the Ducks or whatever it may be that one is creeping after, and often rendering almost hopeless any attempt at stalking while it is near. [The old seal-shooters will aver that the Great Black-back has an especial friendship for the seal, carefully watching when danger threatens, and giving timely warning by its cries.* It really does seem to be the case that when the warning is neglected and the shooter is becoming perilously near, the bird will repeatedly dash into the water close to the seal, and so annoy it as to drive it away, while taking no notice of it under ordinary circumstances. There used to linger on the west coast of Shetland a strange belief that seals are not quite *canny*, the spirits of certain "fallen angels" in some way tenanting them. None will be at a loss to understand this, who has known what it is to be out at sea in an open boat crossing St Magnus' Bay, with the solemn mournful eyes of a seal every now and then gazing steadily into his own, as the strangly human face emerges from the water only a few yards off, and presently sinks down again with the same unwavering wistful look. The peculiar cry of the seal under such circumstances, a plaintive long-drawn whistle, helps to keep up the illusion. It is a clear flute-like note, not so very dissimilar to the call of the marmot, in the high Alps. My excuse for seeming to make so much of the alleged friendship between

* Strangely enough, the above had no sooner gone to press than I chanced to light upon the graphic account of this very same thing given by Mr Knox, in the very pleasant pages of his "Autumn on the Spey."—Ed.

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the Great Black-backed Gull and the seal, must be the pertinacity with which it used to be asserted by the fishermen of that wild and comparatively little-visited west coast, in the course of some deeply interesting expeditions made in their company now twenty years ago. They would also tell many a story, very much more than half believed in, of relations between the seals and the fairies.—ED.]

I think this Gull, like most of the genus, never lays more than three eggs for one sitting, though it will lay a second time if the nest have been robbed of the first batch. In such cases I have known the second eggs to be small in size and somewhat attenuated in form, but it is at no time unusual to find the egg come decidedly short of the standard measurement, which may be called three inches and four lines by two inches and one line for the longer varieties. It is often no larger than that of the Herring Gull. The ground colour is most frequently a light stone colour; sometimes, but not often, it is olive brown. The nest is generally a large mass of dead plants and seaweed placed upon a grassy ledge of rock.

In the winter-time it would appear to be always the case that the head is streaked with grey, both in this species and in *L. fuscus*. The spring moult is completed by the end of March, when the bill and eyelids become much more brilliantly coloured than they were during the winter.

As a rule, the Great Black-backed Gull keeps apart from other birds, unless when attracted by unusual abundance of food, or by carrion in hard weather, and is always so wary that it is not often shot, except, unhappily, near its breeding haunts.

THE GLAUCOUS GULL.

Larus glaucus.

ICELAND SCORIE.

Fully equalling the last species in size, and indeed somewhat exceeding it, this Gull presents considerable differences from the Greater Black-blacked in general habit. It never

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breeds in Shetland, but often stays so very late as to give the impression that its not remaining throughout the year is determined by only the barest turn of the scale. I have seen it in May, and have met with it even as late as June, the first birds returning for the winter usually appearing about the middle of October, when small flocks may be seen composed of both old and young, the latter predominating in number. In winter by far the larger proportion are young birds, nearly all the old ones habitually disappearing shortly after their arrival. Like its miniature the Iceland Gull, the Glaucous Gull is very irregular in migration, but, on an average of years, both species have left Shetland for more northern regions by the middle or latter part of March.

A very notable characteristic of the Glaucous Gull is its not infrequent tendency to congregate in flocks. One day in November 1864, in the face of a gale of wind, I saw a flock pass over, on the way southward, the components of which numbered as many as a hundred and forty, or thereabouts. Many at a time may often be seen upon the voes also, and occasionally the bird may be observed upon fresh water. It was indeed upon the loch of Cliff that I met with it at the late period of the season mentioned above. Mr Edmondston and I were upon the loch together, on the 17th of June 1861, and both of us saw two Glaucous Gulls in what appeared to be the second year's plumage; it was impossible that they could be less than a year old. They came so close to the boat that we could see their white quills, and the men in the boat, who of course know these birds well, were the first to notice them. We were greatly perplexed by the occurrence.

This species may be recognised at a distance by the steady soaring, and by the wing being less bent at the carpal joint than it is in others of the genus. Nearer, it may readily be known by its conspicuous white or whitish quills. The general hue of the bird, at a distance, is a dull creamy white all over. In the water it sits more buoyantly than the Herring Gull, which, though smaller, is sometimes mistaken for it by un-

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practised observers. It is far from being a shy or wary bird, often allowing a very near approach. In the course of a ramble along-shore I have come upon a fine adult Glaucous Gull feeding among the drifted weed, and have seen it merely walk into the water and swim about a little until I was past, and then wade leisurely ashore and resume its search for food. This has occurred to me more than once. Under ordinary circumstances, however, it is not very easy to procure specimens, for the birds fly high, as a rule, and are not so inquisitive as other Gulls, apparently not sharing their wish for a near inspection of every visitor who approaches their haunts. The best way of seeing these birds is to walk along a lee-shore, in the winter time, when it is blowing half a gale. One can at such a time scarcely walk a mile without seeing a few of them sailing above the breaking waves, in readiness to pick up anything in the way of food which may chance to be washing about, and the Gulls will then sometimes be so intent upon their search as to become almost heedless of danger. Owing to the extreme thickness and compactness of the plumage, this Gull is seldom killed with any but very heavy shot. One which my brother-in-law brought in from Haroldswick was fired at four times with apparently little effect, and immediately after receiving the last charge, it flew for about fifty yards, alighted briskly upon a rock, stood firmly for a few seconds, and then suddenly fell dead. On examination, I found very few wounds, though plenty of broken feathers, and discovered that a No. 3 shot had passed through the heart, in such a manner as to make an opening little less than a line in width, into the left ventricle.

Of all the Glaucous Gulls I have examined, only one has been in poor condition; usually they are so fat as to cause much trouble in skinning, and the fat always smells strongly of whale oil. Animal food of any kind is at all times acceptable to them; but, much to my surprise, I have sometimes found the stomach filled with various species of sea-weed, and this has occurred even when whale's flesh has been abundant. I

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once took out of the stomach of one of these birds not less than five different species of sea-weeds, the greater portion consisting of *Alaria esculenta* ("honey-ware"), the midrib of which is sometimes eaten by the Shetlanders themselves. Occasionally, when food has previously been scarce, many Glaucous Gulls may be seen in the hungry crowd, attracted by a carcase on the hill-side. I remember also a couple of them being met with on the beach near Dale, feeding upon a large "fishing frog" (*Lophius piscatorius*), which had been left there by the tide, and have known one to be caught upon a hook baited with a piece of fish.

So far as my observations go, the Glaucous Gulls are not so quarrelsome, either among themselves or with other species, as the Herring Gulls appear to be, and they feed in company with other birds without seeming to cause any alarm.

A notice of this species ought not to omit mention of the fact that it was first recognised and identified in the early part of this century by Dr Laurence Edmondston, by whom also the Iceland Gull and the Ivory Gull were introduced to the fauna of the British Isles. The caution may be here repeated, that any statements made by the Shetlanders concerning an "Iceland" Gull may be generally regarded as referring to this bird, the "Burgomaster" of the Arctic regions; though the account of it given by Captain Scoresby, under the latter name, as quoted by Mr Yarrell, seems curiously out of keeping with one's impressions of the great good-natured Gull which spends its winter in Shetland, the least meddlesome of its tribe, though a match for the Great Black-back itself, and far more than a match for any of the rest. A similar account, however, is given by Captain J. Ross, quoted by Mr Gray in his "Birds of the West of Scotland."

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THE GREAT SKUA.

Lestris catarractes.

BONXIE—SKOOI.

Short though the visit may be which this remarkable bird pays to the Shetland Islands every year, there is not a bird upon the catalogue the name of which is so completely associated with them in the mind of the British ornithologist. None can form even a slight acquaintance with it in its breeding haunts without bearing away a lasting impression of having met with a bird the like of which he had never known before. Pity indeed that such a name should be so near its disappearance from the list of species breeding in the British Isles, but that consummation cannot now be very far away. Gone from its last stronghold on the Mainland, Rona's Hill, gone from Saxaford, cruelly thinned down in the remote island of Foula, and reduced to a very few pairs on Hermaness, it will soon be only a memory of the past. Indeed, but for the exertions of the Buness family, it would have been lost to us long ago.

The Skua arrives about the end of April, and stays perhaps four months, at the farthest, leaving towards the middle of August; but as the birds leave the breeding ground and become scattered some weeks previously, this point in their history is difficult to determine. Very soon after arrival they set about preparing the nest, and they begin laying about the middle of May, certainly not waiting, as some have thought, until the end of June.

My own specimens of the eggs were taken one May morning at Hermaness, where some years ago as many as fifty or sixty pairs might be seen, instead of the five or six pairs, now reduced still lower. Indeed, even the very few which remain will soon disappear if no means are taken to preserve them from the lighthouse people, strangers to Shetland, who gather eggs of

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H.L.S del^t^.

M&N Hanhart lith.

THE NORTHERN LIMIT OF THE BRITISH ISLES

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all kinds, and either eat them or wantonly destroy them.* When we arrived at the breeding ground we heard the low croaking sound made by a Skua as it flew directly before us, and had we followed the bird, we should have lost all chance of finding the nest; but we stood quite still, and the bird suddenly wheeled and made a wide circle round us, keeping rather close to the ground. We immediately separated, and walked in opposite directions, whereupon the bird kept nearer to me than to my companion, and it thus became evident that I was not far from the nest. The farther I walked in one particular direction, the more impatient the poor bird became, stooping within a few feet of my head, and circling above me, apparently in the greatest anxiety for the safety of its treasure. Well accustomed as I was to the ways of the Skua during the breeding season, it was nevertheless with no little effort that I refrained from swerving aside every time the bird, suddenly dropping from a height, came charging directly towards my face; however, it always rose abruptly when within a few feet of me, and passed over my head with great velocity, its wings being fully expanded and perfectly steady, causing, as they rushed through the air, a noise exactly like that of a small sky-rocket. After watching these manœuvres for some time, I resumed the search upon the ground, and soon found an egg, in a nest which consisted of a neatly-rounded cavity in the moss and heather measuring about eleven inches in diameter, and lined with small pieces of moss, heather, and dry grass. Presently we found many more Skuas' eggs, but we only brought home a couple, being unwilling to further decrease the already too scanty race, though in a few years more it will matter very little whether we took all or none. Very soon there will be no more Skuas on Hermaness.

The eggs of this bird are naturally much prized, and in consequence of the value set on them by the collectors, numerous frauds are committed in the supplying, the variations in

* This was written in 1861, and may possibly not apply to the present officials.—Ed.

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colouring of course rendering this the more easy. In many collections I have seen Gulls' eggs labelled as those of the Skua, and although it is in most cases easy to detect the imposition, it is very difficult to define the precise points of distinction. Generally speaking, the egg of the Skua is finer in texture, rather more glossy, and smoother to the touch, and more frequently either of a clayey or purplish brown colour; the spots are fainter and more scattered, and, if we were looking at an artificial production, we should say that the markings had been more carefully laid on, and softened away at the edges. The dark variety, tinged with purplish brown, does not, so far as I am aware, occur in any Gulls' eggs. The specimens which are most difficult to identify are those of the pale bluish green and nearly spotless variety, for which similar ones from the nests of the Lesser Black-backed and Herring Gulls are often substituted; but the finer texture in genuine specimens is in most cases a trustworthy guide. One of the most beautiful varieties I have seen is a pale greenish blue, with a few streaks and blotches of dark brown and light brownish grey; but these light-coloured eggs always occur late in the season, after the birds have been repeatedly robbed. The measurement may be called two inches and seven-eighths by two inches.

The Great Skuas are usually seen singly or in pairs, except during the early summer, when they are assembled at the breeding grounds; upon these occasions I have seen considerable numbers about the same spot, but even then they were chiefly in pairs, except when they became mixed up by accident. At such times, when the young are about, the birds become very daring, sometimes even knocking a man's hat from his head. A dog has no chance with them, for they buffet him so severely in their rapid swoops that he soon has to retire discomfited. I once had four of them sailing in circles close round my head as I stood upon the crown of the highest hill in Unst, Saxaford, and could almost touch them with my gun, the sound of which, by the way, did not seem to cause them much alarm; perhaps they divined how little they had to fear, so far as I was con-

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cerned. The female is rather lighter in colour than the male, and is by far the bolder of the two. During the breeding season the Skua will come to such close quarters with an intruder that I have known a man strike at one with a tether, and entangle it and bring it to the ground.

The Skua is said to be good eating,—said at least by the good folk who say the same of the Kittiwake, &c. There is not much in its diet to recommend it to the epicure, for it is a fierce and formidable bird: not only does it compel other birds to supply its wants, by intercepting them when carrying fish, and taking it from them by force, but it will sometimes make a prey of the unfortunate bird itself instead of its fish, killing even birds as large as a Gull. The strong curved claws and powerful bill, hooked at the point, are weapons with which no bird that flies will care to have much to do, wielded as they are with such consummate daring. Indeed, the Skooi would have been lost to us before now, at any rate in Unst, had it not been for the feeling that its presence was a protection to the flocks against the Eagle, not even the Erne himself causing any alarm to a colony of the great Skuas, or being allowed to lord it in their domain. In size and weight we have nothing among the Laridæ, save only the Greater Black-backed or the Glaucous Gulls, to surpass or even to rival this splendid bird.

In 1868 a Burrafirth man brought me on the 26th of September a Great Skua which he had shot as it flew over the loch of Cliff. It was a very dark specimen, with the legs and feet nearly black, tinged with olive green. It was apparently an adult female. The stomach was empty. This was a most unusually late occurrence of the bird.

Skuas often procure food for themselves or their young by robbing the Gulls' nests of the fish which are carried there by the old birds. Round one Skua's nest I once found thirty-nine full-grown herrings, all headless.

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THE POMARINE SKUA.

Lestris pomarinus.

[Unlike the last-named species, the Pomarine Skua appears to be found in Shetland only in the winter season. It is not mentioned in Thomas Edmondston's list, though it has a place in Messrs Baikie and Heddle's Orkney catalogue; nor does it seem to have been recognised in Shetland until 1861, when the author procured, in company with the skins of the Goshawk and Hawk Owl, the skin of a specimen which was said to have been shot, like the rest, at Scaa, in Unst, in the preceding winter, somewhere about Christmas 1860. Another specimen was shot by the Rev. Z. Hamilton, in Bressay Sound, a little before Christmas 1862. No other allusions to this species occur in the journals.—ED.]

THE ARCTIC OR RICHARDSON'S SKUA.

Lestris parasiticus.

SHOOI—BOATSWAIN.*

The remarks made on the times of migration of the Great Skua will equally apply to this species, even, oddly enough, to the fact that the one instance of a belated bird, seen out of all ordinary rule, was on a 27th of September, though seven years earlier. The Shooi is very far more numerous than its illustrious congener, and is the very sauciest bird in all the sky, not even excepting the Merlins and the Piccatarries. It is not every bird that can enjoy a joke, and the Shooi really

* I have heard this name applied to the bird on the west coast of Shetland, but it has most likely been imported by sailors, who fancy, in the dealings of the predatory birds toward the Gulls, an analogy for their own occasional relations with the functionary in question. A friend has, however, asserted that the word is of Scandinavian origin, and should be written *bosun*, adding that he had heard the term used in Norway. I have not chanced to fall in with the bird in Norway, not having been down on the coast until late in the season, and so cannot speak from personal knowledge, but my impression is that he is mistaken.—ED.

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does seem to appreciate one thoroughly. It is as good as a comedy to witness his outbreak of high spirits, as he suddenly sweeps up high into the air, with a taunting cry, half peacock half tom-cat, and leaves far behind him the bewildered stranger whom he has befooled hopelessly off the track of the nests by his admirable simulation of broken leg, broken wing, and broken prospects in general. There is not an ill that bird flesh is heir to which the Shooi cannot convince you he is afflicted with. While the young are quietly running away in one direction, getting well into cover of the heather, the parent in charge will lead the visitor a perfect Jack o' Lantern dance. In the greatest excitement, the man stumbles along over the tussocks, always on the point of running the bird down, and always just missing it; and then to see the contrast, as the one springs into vigorous life and the other stands gaping after it in astonishment, is ludicrous in the extreme.

Then, again, to watch the bird among the Gulls is a continual source of amusement. The robber sails smoothly about, on the look-out for a meal, and at last sees a poor industrious old Gull carrying home a dinner or a supper to his family, and at once gives chase. No sooner does the Gull perceive that he is the object of attention than his wings begin to beat with more than their customary rapidity; the Shooi glides after him like an arrow, and the Gull, finding his enemy close upon him, drops suddenly for a yard or so. This causes the other to overshoot the mark, and as he turns back the Gull reascends, and the Shooi passes under him. In this way they continue for some little time, circling and wheeling about, now high, now low, the Gull jabbering all the while with his mouth full, and the Shooi sticking to him as close as slander. Presently Shooi gets impatient. He goes straight at the Gull, buffets him on the breast and back; all is confusion for a moment; there is a squall from the big stupid of a Gull, and down goes the fish, and down goes the little Shooi after it, snapping it up long before it reaches the ground or the water, and making off with it in triumph, almost winking at you as he passes. The Great

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blundering Gull flaps sulkily away, uttering discontented and rueful notes which would try the gravity of a judge, its queer gruntings and croakings seeming almost to shape themselves into an aspiration that the fish may do anything but agree with the stomach of its new proprietor.*

The Arctic Skua is an extremely bold bird, and though it will sometimes give chase to a Ringed Plover or a Knot, to serve for food when it cannot get any fish, it never hesitates to attack even the largest and most powerful of the Gulls, taking toll even from the Great Black-backed itself. It will attack and put to flight a Raven, nor does it shrink in the least from an encounter with a dog. Instead of attempting to decoy from the breeding haunts any chance dog that may think to make a prize of the young birds, the Shooies will sweep right at him, screaming, and giving him smart scratches upon the back as they rush past, until the poor animal, thoroughly exhausted with vain attempts to seize his tormentor, is at length compelled to return whence he came, often with the loss of part of his coat. And all this audacity, be it remembered, is shown by a slight, graceful bird, that would not take down the scale against a tolerable Pigeon. One evening in July I saw a white-breasted Hawk, as it appeared, tearing to pieces another bird, probably a Plover, and presently found that the supposed

* If this seems overstated, let the critic pause until he has had the opportunity of listening to an old Great Black-backed Gull, for example, which has for a wonder failed to notice him as he lies hid. I well remember, years ago, one evening, when my brother and I were on the island of Balta, motionless among the stones and sand-hills, in hopes of a rabbit for our larder, an old Gull of that species, passing very slowly overhead, was talking to himself in so ludicrous a fashion, precisely as though making comments on things in general, that neither of us could refrain from a hearty laugh. The fact is, birds have a power of expression vastly beyond anything that is dreamed of by the casual observer, nor is there the smallest exaggeration in speaking of a bird-language. Such a thing is really existent, and none the less so for being inarticulate. He must be but a poor naturalist, or, what is the same thing, but an in-door naturalist, who has not learned that a bird's larynx is not a mere organ-pipe, constructed to give only one note or sequence of notes, any more than his own. There is not an emotion, not even excepting gratitude, that cannot find vocal expression among them. Indeed, there is nothing in all these pages so remarkable as the incident related on page 119, of the Roseate Pastor not understanding the alarm note of the Starlings.—Ed.

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Hawk was one of the Arctic Skuas. It would not let me get near, but flew off with its prey in its bill. The Golden Plover seems a large bird for it to prey upon, but one day in June, on my chancing to put up from its nest a Golden Plover, which went tumbling along before me in its usual fashion, a Shooi came sweeping down at it, just as a falcon might, passing so close to me that I could have touched it with the muzzle of my gun. I did not see the issue, being at the moment closely occupied in one of the most important quests of my whole Shetland career—nothing less than the following up three Snowy Owls which were in sight at one time, and this in the month of June! I had a thorough good study of them for two days.

The impudence of two of these birds was once the cause of my losing an opportunity of getting a white-tailed Eagle, which they most impudently attacked, and teased into going away, though it did not condescend to take the smallest notice of them otherwise.* I have seen a Shooi chasing the Halligarth Pigeons, though whether for mere mischief or with more serious intent, I cannot say. Leaving these, it drove up some Herring Gulls from the loch. On the whole, the Arctic Skua must be regarded as a very great nuisance by other birds, but, strange to say, its proximity causes no commotion, as when a Hawk is about. The Gulls do not appear to disturb themselves much for it, unless when singled out to pay tribute,—*vacuus cantabit*, no doubt; it is only when laden with spoil that they come to trouble. Once I saw a rescue, though. An Arctic Skua was chasing a Common Gull at Uyea Sound and, on several of the latter species collecting with their characteristic readiness, was speedily driven off.

These birds have a strange habit of sitting half buried in the heather, especially when the weather is damp and foggy. They

* They cost me much more than this, one day in the summer of 1854, teasing beyond the limits of its patience a fine Bernicle Goose which was waddling about, apparently far from unwilling to become the first on record taken in the British Isles in the summer-time. The Shooies were a party of four, probably a family, which hunted in company for three weeks or more round the voe at Balta Sound.—Ed.

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are also fond of running along with the wings half spread, whether the nest is commenced or not. One who would visit them in their favourite haunts should go to the northern part of Unst, where they breed in great numbers, though decreasingly so every year. My impression is, that they breed in only four of the Shetland Islands besides Unst, viz., Yell, Fetlar, Noss, and Foula. Soon after arrival they assemble at the breeding grounds, which are as often as possible in elevated situations, the grassy tops of high cliffs projecting into the sea being preferred. The nests are upon the ground, and in most cases are rather carelessly constructed, the materials used being moss, short grass, and bits of heather. The eggs are laid during the latter part of May, and, as was said in the case of the Great Skua, are apt to be very much darker in the early part of the season. The most usual kind is a dark olive green, slightly blotched and spotted with dark brown, measuring two inches four lines by one inch eight lines. I have known an egg three lines longer, but of the same breadth;—the shorter diameter of an egg being at all times and for all species, so far as my observations have gone, less liable to variation than the longer. From a number of eggs of this species brought me on the 6th of June, I selected the following varieties, viz.:—Very pale olive green, without any marks; olive brown, so dark that the usual brown marks could with difficulty be seen; greenish stone colour, marked with brown and grey; clear dark olive green, marked with olive brown of several shades; greenish grey, marked with dark brown and brownish grey. Thus the diversity in the colouring must not be regarded as wholly due to the degree of advancement of the season, all these being quite fresh when brought to me. It may be remarked, by the way, that Shooies' eggs very soon spoil if not blown. I have repeatedly noticed this.

The young when newly hatched are covered with a brownish coloured down. One was brought to me in this condition on the 17th of July, just barely able to run a little, and I kept it until the 6th of September, when it died. The Arctic Skua is

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not a bird which often thrives in confinement. By the time my little bird was a month old its cry precisely resembled that of the adult, though at first it was very different.

There is no doubt that these unscrupulous birds feed on eggs occasionally. I have myself seen and handled eggs of the Common Gull from which the Shooi had just flown away.

[I very much regret to be unable to throw any light from the MSS. on the still unsettled question as to the determining causes of the singular and very great variations in plumage so well known to occur in this species. There are casual allusions to white-breasted specimens, and also in one passage a pair is spoken of, the female of which was entirely brown, while the male was white underneath. Mention is likewise made of a specimen in which the carpal joint of the wing was very prettily mottled with white. Beyond this, nothing is said. In 1865 the author told me he had not been able to form any sort of theory upon the subject. Thomas Edmondston says ("Zool." 1844, p. 466), "This difference is apparent when the young birds are in the nest; and the parents may be both black, or both of the other kind, or one of the black and one of the white-bellied variety, and the young will be either two black, two white-bellied, or one of each indiscriminately. I have seen two black young birds in the nest of two white-bellied. I have shot, dissected, and domesticated many individuals without obtaining any clue to this singular anomaly, the two varieties being precisely similar in every particular but that of colour." This account would seem to make altogether against the belief entertained by some, that the variations are according to age. For *black* read *blackish brown*, from the context.—Ed.]

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THE FULMAR PETREL.

Procellaria glacialis.

MALLIMOKE.

It can very seldom happen to an ornithologist that he has any opportunity whatever for studying the habits of this species, for the reason that the bird scarcely ever comes to the land; that is to say, of course, to British soil. It never breeds in Shetland, and one who would make acquaintance with it in a living state must be content to go out with the boats many miles off-shore, to the "haaf," or deep-sea fishing with the long lines. There it is plentiful enough in the early summer, usually appearing first about the end of May, occasionally a week or so later, and continuing to be abundant until the end of June or the early part of July.

The Fulmar is a bird which shows so many peculiarities as to render the fishermen not a little superstitious with regard to it; indeed, they do not at all like to molest it, for fear of ill-luck ensuing, a Shetland fisherman's superstitions, from the moment of his leaving his cottage door for the haaf until he sets foot on dry land on his return, being something almost incredible to the ordinary English mind. Other birds surrounding the boats at sea one and all appear rather afraid of it; not that it would seem very formidable, its bulk scarcely exceeding that of a Common Gull, and its ways of getting a living being sufficiently unobjectionable. At any rate, other birds avoid it as a rule. It can certainly take care of itself, and when interfered with while sitting upon the water, it draws back the head, ruffles the feathers, droops the wings, and opens the bill threateningly. When caught it bites very hard.

It is seldom met with at a less distance than fifteen or twenty miles from the land,—the open boats constantly go out thirty miles or so, fearful as is the risk,—and it regularly approaches the boats from the north or north-east, and retires toward the quarter whence it came, being always the most

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numerous before bad weather. In a strong wind, however, they do not very readily come from the windward.

It will sometimes suddenly appear in great numbers when the lines are being hauled in, and is often so eager for food as to allow itself to be caught by hand, under which circumstances it does not vomit oil, as do the Shearwaters and Storm Petrels. Occasionally it is so bold as even to snatch morsels of food out of the boat itself. No part of the fish comes amiss to it, but it greatly prefers the liver, a scrap of which it will see a very long way off, and very often it will not care to touch anything else, except any oil which may chance to be about, the sipping which up from the surface of the water affords it great pleasure.

The faculties of the bird appear keen enough. Not a single Fulmar may be in sight, but let the bait be thrown out, and they will come in numbers, especially in the early morning, even in a thick fog; whence the men say they are guided by the scent. When a large morsel falls to its share, the bird sits in the water and tears it; but a small piece is either swallowed at once or carried away, the bird seldom eating otherwise than while sitting in the water, even alighting for the purpose. It is said that the Fulmar never dives. Adult birds in full plumage,—that is, with the pure white head and under parts,—are comparatively scarce at all times. Two very fine birds in this state, left hanging up, caused a couple of large greasy marks upon the wall, so different the condition of their snowy plumage from that of the Gulls or of the white-breasted Skuas.

THE GREATER OR CINEREOUS SHEARWATER.

Puffinus cinereus.

On the 10th of June 1870, Robert Nicolson brought me a specimen of the Cinereous Shearwater, shot at the haaf a day or so before. He says that although he has seen others, they

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are "quite scarce." I have not heard of its occurrence in Shetland previously.

[This scanty notice is all that can be found in the journals concerning the bird in question. The only other mention of it as occurring in Shetland, that I have been able to discover, is in Mr Gray's "Birds of the West of Scotland," p. 505, where a MS. note in a copy of Messrs Baikie and Heddle's catalogue of the birds of Orkney, by one of the authors, dating not later than 1853, is quoted as saying that this Shearwater has been met with in the Shetland Islands.—ED.]

THE MANX SHEARWATER.

Puffinus Anglorum.

LYRIE.

This interesting bird, the "Lyre-bird" of Orkney, usually arrives in Shetland at the end of April or in the first days of May, and seems to lose no time in going to earth, being almost as truly a burrowing animal as any mole or rabbit. The earliest intimation of its arrival has repeatedly been brought to me by the folk who have taken it from the holes. Oddly enough, the fishermen, who have such abundant opportunities for observation, most positively assert that the bird is never seen abroad in the day-time. That they are wrong, I for one can testify. I have seen it at all times of the day, though, so far as I can remember, not during the breeding season. Indeed, as Mr Gray well remarks, there are few sights more picturesque in their way than that of a group of Shearwaters disporting themselves in a breeze of wind. The name of the bird seems to be derived from its strange habit of suddenly sweeping down towards the surface of the water, and ploughing it up with its breast.*

* The splash of the Shearwater is quite unlike that of the Tern, and, although of course on a smaller scale, exactly resembles that caused by the graze of a round shot as it ricochets upon the water.—ED.

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The burrows are dug in the dry crumbling soil of the steep cliffs, varying from eighteen inches to two feet in depth, or even more, and are so narrow that the introduction of the hand is a matter of some difficulty when the hole happens to be new, and therefore but little worn by the passage of the bird. A fresh hole is not necessarily dug every season, the old ones being often made to serve again. To look at, the bill would not seem to be very well adapted for digging, but still it answers the purpose, possessing more strength than the observer would at first sight imagine. The hooked point is very hard and sharp, as a certain scar on one of my hands can testify; and the edges of the mandible, too, are very keen, and have more than once drawn blood from my fingers. The sand is scraped out in sufficient quantity to form a considerable heap at the entrance, and very slight disturbance of the heap will cause desertion. Indeed, the Lyrie is not at all a bird that will bear to be much interfered with. It is almost certain to forsake the nest if it be taken out, even though it will return for the moment, creeping back into the hole after a little uncertain fluttering, seemingly quite bewildered when tossed up in the air.

The first eggs are usually laid in the early part of May; others will be found in a fresh state about the middle or end of June. In most cases something of a nest is made with pieces of dead plants or hay, but sometimes the bare soil is thought sufficient. It now and then happens that the nest is made far back in the deep crevice of a rock. Some have asserted that the Shearwater lays only once in the season, but my own observations lead me to the conclusion that a second laying does take place; the bird, however, not producing a new egg—it lays but one—immediately on being robbed of the first, but waiting until the regular time, some weeks later, when it will either use the old burrow, to which it has returned occasionally in the interval, or will dig a new one. After the egg has been taken, the bird will often remain in the nest for several days before finally resolving to quit. The young

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bird will keep to the nest until long after it is fully fledged, and in such circumstances becomes enormously fat, and is thought a dainty by the fishermen, who eat it with much relish.

Eggs of the common barn-door fowl are often passed off as those of the Manx Shearwater, and even an experienced eye will sometimes be deceived. Intending purchasers should select specimens which have the shell thin, smooth, perfectly white, and of extremely fine texture, and the ends should be without wrinkles or rough spots. The well-known musky smell and the pale yellow yolk render it easy to identify the egg when fresh. The average measurement is about two inches and five lines by one inch and eight lines.

In handling the Shearwater, one need be very cautious, as it has the habit of ejecting from the mouth a quantity of clear thin oil,—fishy and disagreeable enough, it is true, but by no means the abominably offensive stuff described by authors. On several occasions I have found in the stomach of this bird the jaws of a small species of cuttle-fish, vouched for as such by Mr Gwyn Jeffreys himself, together with a small quantity of comminuted sea-weed, and some green vegetable fibre. The cuttle-fish jaws have been found by me also in the stomach of the Fulmar Petrel.

THE DUSKY PETREL.

Puffinus obscurus.

[In the author's copy of the printed list referred to on p. 329, the mark denoting that the bird was first observed in Shetland by him is found against this species, accompanied, however, by a (?). Mr Thomas Edmondston tells me his impression is, that my brother "saw a bird, evidently of the Petrel family, which he was unable to identify, and noted down his observations about it, hoping to elucidate something further at a future date." Unable to find any allusion to such a bird in the MSS.,

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and totally unacquainted with it myself, even by name, hitherto, I have nothing more to say on the subject. It seems well just to thus insert the name, not as claiming for the author the discovery in Shetland of the Dusky Petrel, whatever the bird may be, but as indicating to naturalists exploring the islands that there is some reason to suspect the occasional presence there of a member of the Shearwater group, neither *P. cinereus* nor *P. Anglorum*, the identification of which may reward the vigilance of a careful observer.—ED.]

THE STORM PETREL.

Thalassidroma pelagica.

SPENCIE—SWALLOW.

It is not until the early part of June that this charming little bird resorts to the breeding places, where the laying usually begins about the middle of the month, though in exceptional seasons the egg will not be found until after the first week in July, the Storm Petrel being decidedly a late breeder. Whole colonies may be found deep down among large loose boulders upon the beach, among loose stones and rocks in the cliffs, and occasionally in unfinished rabbit burrows, not more than two or three feet deep. During the day the birds are always silent, so far as I know, until the nests begin to be exposed by the removal of the stones; but at night a constant chattering is kept up, which at once draws attention to the spot. A stranger may pass and repass continually along the rugged beach without having the smallest idea that he is walking over the heads of dozens of the little Petrels, sitting quietly a yard or so below. They are at once betrayed, however, to the experienced in such matters by the peculiar musky odour which is never absent from birds of this genus.

I have very seldom seen Petrels flying in the day-time, and upon the few occasions on which I have witnessed such an unusual sight the weather has been foggy, and the birds have

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fluttered about with loose uncertain flight very near their nests, probably deceived by the diminution of the light. The fishermen regard the "Spencies" with great superstition, and tell many strange stories about them. One thing is certain, that during the bright summer nights, when the boats are thirty or forty miles from land, and the cleaning of the fish begins, hundreds of these strange birds will suddenly appear upon the scene, though not one had been observed previously. It is probable, however, that the Petrels and other birds are attracted to the boats by the oil spread over the surface of the water during the cleaning process, for it becomes diffused with notable rapidity over a great area. They often follow the boats for many miles upon the homeward way. I have been assured by fishermen in many parts of Shetland, that sometimes in the uncertain light they have seen what appeared to be the buoy marking the situation of the lines, and on pulling up to it have found it to be a perfect mass of Petrels assembled round a piece of fish liver. Once, in crossing Blue Mull Sound, I saw a Petrel sitting upon the water—a very uncommon sight in-shore. All the men agreed that they had very rarely seen one at rest upon the water except at the haaf fishing.

Many an ill-fated Petrel now meets its death by concussion against the lantern of the Flugga lighthouse, sometimes not less than a score and upwards being picked up in one night by the light-keepers, who complain loudly of the trouble the birds give them by vomiting oil upon the glass as they strike. It is scarcely ever at any other season than spring and autumn that the Petrels thus come in collision with the light.

Owing to the lateness of the Storm Petrel's breeding habits, fresh eggs being sometimes found even in the middle of August, the young are not always completely feathered by the time the autumnal gales are upon them. I have known them caught in stubble fields a mile or so from the sea, driven inland by the storm, and in such cases have found a great deal of blackish grey fluffy down still remaining upon the under parts of the bird.

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The single egg is deposited upon a few pieces of dry grass, heather, or dead plants, often intermingled with scraps of dried mud; it is very rarely laid upon the bare ground. I once found two eggs in one nest, but, fortunately for my peace of mind, there was a bird upon each. The egg varies greatly in size, though very little in form. The colouring also is somewhat remarkable. I have specimens perfectly white, others with an almost imperceptible ring of faint red spots at one end, and others, again, with the ring exceedingly well marked. I have sometimes fancied that incubation has the effect of obliterating these marks more or less; but it is very certain that fresh eggs are often perfectly white, without the faintest appearance of a ring. A very short time should be allowed to elapse before the eggs are blown, for they very soon spoil. The same remark applies to the eggs of the Arctic Skua, but I am utterly unable to account for the fact. The young are at first covered with a beautiful and exquisitely soft greyish black down. The parent bird sits closely to the egg, and when taken in the hand immediately throws up several drops of clear oil.

[The Storm Petrel contrasts remarkably with its near ally the Manx Shearwater, so closely resembling it in other habits, by the unconcern with which it will allow its haunts to be visited and disturbed. I have pushed aside Petrels with my finger after gently rolling back the stone which concealed them, and have seen them settle down again before the stone could be replaced. One day—it was the last of July, on the occasion of a bright picnic party which some Shetland friends had been pleased to arrange for the enjoyment of their visitors, —a tall English cart-horse had been kindly sent across the island for my behoof, as a national compliment, and I had had to ride it instead of a charming native pony—we took boat for some little-visited islets a few furlongs from the shore, on the west coast of Unst, and came upon a colony of Petrels just barely hidden from sight, detecting them of course by the musky smell. In one instance there was a young bird, apparently but a day or

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two out of the shell, and the old bird was so little alarmed that she let me carry both her and the young one down the rocks, to show to the ladies of the party, and on being replaced, at once began nestling the little creature under her wing, like a hen, making a quiet twitter of satisfaction. Of course we took no Petrels from *that* colony.

I subsequently had five specimens brought me from another place, and kept them alive for some days. They would not eat if food was merely placed within their reach, even though it was chopped cod liver, but did very well if one caught the bird with one hand, and with the other hand presented to it a soft brush dipped in train-oil,—a mode of treatment which Mr Yarrell had suggested to me some time previously. They soon learned to seize it readily, drawing the bill down the brush. In confinement, however, neither these birds, nor the two Shearwaters, similarly kept, would take any pains with their plumage, getting very oily about the breast. The prison was a cask with a net at the mouth. I had the curiosity to weigh the Petrels; the average of the five was something over two hundred grains, or, roughly speaking, nearly half an ounce avoirdupois.—ED.]

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APPENDIX.

(A.)

List of Birds which have been observed in the Shetland Islands up to the present date.

[Compiled by the Editor, who is alone responsible for it.]

SMALL ROMAN CAPITALS denote that the bird breeds in Shetland. Plain type indicates a bird which visits or has visited the islands, but does not breed there. *Italics* are used in the few cases in which the Editor has been unable to find other evidence than that of marginal annotations, in Dr Saxby's handwriting, on a printed catalogue of British birds, such annotations having been made subsequently to the year 1870. Two or three doubtful cases are enclosed in brackets. An asterisk signifies that the species was first recognised and placed upon the Shetland list by the Author of the present work.

In some instances the asterisk will be found before the name of a bird which is also on Mr Thomas Edmondston's list: reference to the body of the work will at once explain the apparent discrepancy. A few more names might possibly with justice have been thus marked, but the matter did not seem sufficiently important to render the vindication worth while.

Golden Eagle, . . .	occasional; no longer breeds in Shetland.
WHITE-TAILED EAGLE, .	a few pairs breed.
Osprey, ...	an occasional straggler.
Greenland Falcon, . .	not infrequent.
Iceland Falcon, . . .	becoming rare.
PEREGRINE FALCON, . .	frequent.
* Hobby, ...	very scarce.
MERLIN, ...	abundant.

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KESTREL, ...	local.
Goshawk, ...	very rare.
SPARROW-HAWK, . .	not common.
Kite, ...	rare.
* BUZZARD, . . .	one seen in 1858.
* Honey Buzzard, . .	two killed.
* Marsh Harrier, . .	rare.
HEN HARRIER, . . .	not uncommon.
* *Montagu's Harrier*, .	"H. L. S. seen winter occasional."
Eagle Owl, . . .	now become very rare.
* Long-eared Owl, . .	four shot.
SHORT-EARED OWL, . .	common.
Snowy Owl, . . .	a regular visitor; no longer breeds.
Hawk Owl, . . .	one shot in 1860.
* Tengmalm's Owl, . .	one killed; hitherto mistaken for Little Owl.
* Great Grey Shrike, . .	one seen in 1870.
RED-BACKED SHRIKE, . .	very rare; young found, but not nest.
Spotted Flycatcher, . .	rare.
Missel Thrush, . . .	not common.
Fieldfare, ...	becoming common.
* Song Thrush, . . .	one seen.
Redwing, ...	becoming common.
Blackbird, ...	becoming frequent.
* Ring Ouzel, . . .	a regular visitor.
* Hedge Accentor, . .	one seen in October.
Redbreast, . . .	scarce.
* Redstart, . . .	unknown until lately.
WHEATEAR, . . .	extremely abundant.
* Blackcap, . . .	becoming a regular visitor.
* Garden Warbler, . .	rare; occurs in September.
* Whitethroat, . . .	occasional.
* Lesser Whitethroat, .	very rare.
* *Wood Warbler*, . .	"seen by H. L. S. occasional."
* Willow Warbler, . .	now a regular visitor.
* Chiffchaff, . . .	rare.
Golden-crested Regulus, .	becoming plentiful.
[* *Fire-crested Regulus*], .	"seen by H. L. S. winter, rare."

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* Great Tit, . . .	has occurred twice.
* Blue Tit, . . .	very scarce.
* Long-tailed Tit, . .	four seen at once in 1860.
* Bohemian Waxwing, .	occasional.
Pied Wagtail, . . .	not numerous.
* White Wagtail, . .	apparently scarce.
Grey Wagtail, . . .	in very scanty numbers.
* Grey-headed Wagtail, .	seen and shot, but not common.
* Ray's Wagtail, . .	a rare straggler.
* Meadow Pipit, . .	now become common.
Rock Pipit, . . .	very abundant.
Skylark, . . .	plentiful in summer.
Snow Bunting, . .	abundant in winter; *nest found.*
Common Bunting, . .	plentiful in winter.
* Black-headed Bunting, .	three recorded.
* Yellow Bunting, . .	not common.
Chaffinch, . . .	becoming common, winter.
Brambling, . . .	becoming common, spring and autumn.
House Sparrow, . .	abundant.
Greenfinch, . . .	formerly very rare, now plentiful.
* Siskin, ...	very scarce, winter.
Linnet, ...	reported common, but apparently in mistake for the Twite.
* Mealy Redpole, . .	common.
* Lesser Redpole, . .	far less numerous than the above.
Mountain Linnet, or Twite,	very abundant.
Bullfinch, . . .	one shot in 1863.
Crossbill, ...	increasingly frequent.
American White-winged Crossbill, . .	occurred in 1859.
Starling, . . .	abundant.
Rose-coloured Pastor, .	occasional; rare.
Raven, ...	abundant.
Carrion Crow, . . .	rare.
Hooded Crow, . . .	very abundant.
Rook, ...	occasional.
Jackdaw, ...	a large flock sometimes seen; rare.

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Jay,	one occurred in 1861.
* Great Spotted Woodpecker,	flocks came in 1861 and 1869.
* Wryneck,	twice met with.
* Tree Creeper,	one occurrence, 1859.
Wren,	numerous.
Hoopoe,	a very rare occasional visitor.
Cuckoo,	not very infrequent.
Roller,	occasional; rare.
Swallow,	in scanty numbers, very rarely breeds.
Martin,	do.
* Sand Martin,	extremely scarce.
Swift,	occasionally seen.
Nightjar,	not very infrequent.
Ring Dove,	becoming a regular visitor.
Rock Dove,	very plentiful.
* Turtle Dove,	becoming a regular visitor.
[Red Grouse],	of very doubtful occurrence unimported.
* Pallas' Sand Grouse,	several occurred in 1863.
* Quail,	once found, with nest and eggs.
Collared Pratincole,	one shot in 1812.
Golden Plover,	common.
* Dotterel,	one shot in 1870.
Ringed Plover,	very plentiful.
* Sanderling,	a regular visitor.
Grey Plover,	has very rarely been recognised.
Peewit,	becoming frequent.
Turnstone,	common.
Oyster Catcher,	very common.
Crane,	has occurred several times.
Heron,	numerous in winter, but rarely breeds.
Bittern,	only twice seen for certain.
White Stork,	has occurred more than once.
* Spoonbill,	occasional, but rare.
* Glossy Ibis,	one shot in 1862.
Curlew,	very frequent.

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Whimbel, . . .	common.
Redshank, . . .	not common.
* Common Sandpiper, .	very infrequent.
Greenshank, . . .	not common.
Avocet, ...	twice seen.
Black-winged Stilt, . .	has occurred once.
Black-tailed Godwit, . .	occasional, not common.
Bar-tailed Godwit, . .	do.
* Ruff, ...	two killed in 1866.
* Woodcock, . . .	becoming much less rare than formerly.
* Great Snipe, . . .	has often occurred.
Common Snipe, . . .	very plentiful.
Jack Snipe, . . .	usually abundant.
* Curlew Sandpiper, . .	a regular visitor.
Knot, ...	frequent.
Little Stint, . . .	not uncommon.
Dunlin, ...	plentiful.
Purple Sandpiper, . .	common in winter.
Grey Phalarope, . .	rare.
* Red-necked Phalarope, .	local.
Landrail, . . .	common.
Water Rail, . . .	becoming somewhat frequent.
* Moorhen, . . .	rare, winter.
Coot, ...	occasional.
Grey-lag Goose, . .	an infrequent casual visitor.
Bean Goose, . . .	occasional.
White-fronted Goose, .	flocks have occurred at long intervals.
* Bernicle Goose, . .	one seen in 1854.
Brent Goose, . . .	not uncommon.
Hooper, ...	a regular visitor.
* Bewick's Swan, . .	regular, but less common than the above.
Shieldrake, . . .	very rare.
* Pintail Duck, . .	not abundant.
Wild Duck, . . .	common.
* Garganey, . . .	very scarce.

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Teal,	a regular visitor.
Wigeon,	a regular visitor.
Eider Duck,	numerous.
[King Duck],	more than doubtful.
Velvet Scoter,	occasional; not common.
* Common Scoter,	occasional; not very common.
[Surf Scoter],	one said to have been seen.
Pochard,	a winter visitor.
Scaup Duck,	not uncommon in winter.
Tufted Duck,	a winter visitor.
Long-tailed Duck,	common: doubtful if it breeds in Shetland.
Golden Eye,	common.
* Smew,	very rare.
Red-breasted Merganser,	plentiful.
Goosander,	very rarely seen.
Great Crested Grebe,	occasional, but very rare.
* Red-necked Grebe,	not very uncommon.
Sclavonian Grebe,	not infrequent.
Little Grebe,	a few every winter.
Great Northern Diver,	frequent, but seldom breeds.
Red-throated Diver,	frequent, but less numerous than the last.
Common Guillemot,	very abundant.
Brunnich's Guillemot,	a single specimen reported.
* Ringed Guillemot,	common.
Black Guillemot,	very abundant.
Little Auk,	common.
Puffin,	common.
Razor Bill,	common, but diminishing in numbers.
Cormorant,	very common.
Shag,	very abundant.
Gannet,	common.
Arctic Tern,	very abundant.
Black Tern,	a single specimen reported.
* Sabine's Gull,	one seen in 1861.
[* Cuneate-tailed Gull],	possibly occurred in 1854.

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Black-headed Gull, . .	common.
Kittiwake, . . .	very abundant.
Ivory Gull, . . .	a winter visitor, but scarce.
Common Gull, . . .	very abundant.
Iceland Gull, . . .	a regular winter visitor.
Lesser Black-backed Gull,	very common.
Herring Gull, . .	very abundant.
Greater Black-backed Gull,	common.
Glaucous Gull, . . .	a regular winter visitor.
Great Skua, . . .	becoming very local.
Pomarine Skua. . .	occasional.
Arctic Skua, . . .	plentiful.
Fulmar Petrel, . . .	plentiful at sea.
* Cinereous Shearwater. .	occasional.
Manx Shearwater, . .	common,
* [Dusky Petrel], . .	"doubtfully seen by H. L. S."
Storm Petrel, . . .	plentiful.

(B.)

Glossary of Names by which certain Birds are commonly known in Shetland.

Baagie, ...	Great Black-backed Gull.
Blue Maa, . . .	Common Gull.
Boatswain, . . .	Arctic Skua.
Bonxie, ...	Great Skua.
Brongie, ...	Cormorant (young).
Brown Yogle, . . .	Short-eared Owl.
Calloo, ...	Long-tailed Duck.
Catyogle, ...	Snowy Owl, Eagle Owl.
Corbie, ...	Raven.
Cornbill, ...	Bunting.
Craa, ...	Hooded Crow.
Craa-Maa, . . .	Kittiwake.
Diving Duck, . . .	Golden Eye.
Doo, ...	Rock Dove.
Dunter, ...	Eider Duck.

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Erne,	White-tailed Eagle.
Fish Hawk,	Osprey.
Goshawk,	Peregrine Falcon.
Gowk,	Snipe.
Grey Yogle,	Short-eared Owl.
Haigrie,	Heron.
Hawk Owl,	Short-eared Owl.
Herald Duck,	Red-breasted Merganser.
Hill Sparrow,	Meadow Pipit.
Hobby,	Merlin.
Horra Goose,	Brent Goose.
Horse Gowk,	Snipe.
Iceland Hawk,	Greenland Falcon, Iceland Falcon.
Iceland Scorie,	Glaucous Gull.
Immer Goose,	Great Northern Diver.
Jack Snipe,	Dunlin.
Lady Hen,	Skylark.
Laverock,	Skylark.
Lintie,	Mountain Linnet.
Loering,	Cormorant (adult).
Longie,	Common Guillemot.
Lyrie,	Manx Shearwater.
Maalin,	Merlin, Kestrel, Sparrow-Hawk.
Mallimoke,	Fulmar Petrel.
Norie,	Puffin.
Peerie Whaup,	Whimbrel.
Piccatarry,	Arctic Tern.
Plover Page,	Dunlin.
Rain Goose,	Red-throated Diver.
Robin Redbreast,	Wren.
Said Fool,	Lesser Black-backed Gull.
Sandy Laverock,	Ringed Plover.
Sandy Loo,	Ringed Plover.
Scarf,	Shag.
Scart,	Shag.
Scorie,	Young Gull of any kind.
Sea Eagle,	White-tailed Eagle.
Sea Woodcock,	Godwit.

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Shelder, ...	Oyster Catcher.
Shooi, ...	Arctic Skua.
Skooi, ...	Great Skua.
Small Maa, . . .	Common Gull.
Snaa Fool, . . .	Snow Bunting.
Snippack, . . .	Snipe.
Spencie, ...	Storm Petrel.
Stanepecker, . . .	Turnstone, Purple Sandpiper.
Starn, ...	Starling.
Steinkle, ...	Wheatear.
Stock Duck, . . .	Wild Duck.
Stock Hawk, . . .	Peregrine Falcon.
Stock Whaup, . . .	Curlew.
Swallow, ...	Storm Petrel.
Tammy Norie, . . .	Puffin.
Tang Sparrow, . . .	Rock Pipit.
Tang Whaup, . . .	Whimbrel.
Tarrock, ...	Arctic Tern.
Teetick, ...	Rock Pipit, Meadow Pipit.
Tieves' Nicket, . . .	Lapwing.
Tystie, ...	Black Guillemot.
Waeg, ...	Kittiwake.
Whaup, ...	Curlew.
White Maa, . . .	Herring Gull.
Wild Pigeon, . . .	Rock Dove.
Willock, Wilcock, . .	Razor Bill.
Woodcock, . . .	Godwit.

(C.)

Extracts from the Author's MS. Note-Books.

Given as a sample of the manner in which his observations were carried on, and in the last instance to show the substantial character of the material which the Editor has had at hand in revising and completing the book. The passages cited are as follows:—

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(i.) From the Diary for 1853—Brussels and the neighbouring Forest of Soignies.

a. Market Notes—General Memoranda.
b. Do. The Green Woodpecker.
c. Do. The Ortolan Bunting.
d. Nests of the Sand Martin.
e. The Little Owl.

(ii.) From the Diary for 1855—Vale of Festiniog, North Wales.

a. Roosting habits of the Finches.
b. First recorded nesting of the Redwing in Britain.
c. The Carrion Crow.
d. The Cuckoo.
e. The Sedge Warbler.
f. Duck-hunting.

(iii.) From the Diary for 1863—Balta Sound, Shetland.
Pallas' Sand Grouse.

(i.) *Specimens of the Journal kept in Belgium*, 1853 (*æt.* 17).

a. Market Note, Brussels.

Monday April 11.—Changeable.

166. The dead birds in the market were—

Song Thrushes,	Meadow Pipits,	A Stock Dove,
Blackbirds,	A Hawfinch,	Snipe,
Redwings,	A Chaffinch (female),	A Water Rail,
Skylarks,	Ring Doves,	Wild Ducks.

There were only very few Wild Ducks.

167. The live birds were—

A Short-eared Owl,	Yellow-hammers,	Lesser Redpoles,
Tengmalm's Owl,	Black-headed Buntings,	Mealy Redpoles,
A Scops Eared Owl,	Chaffinches,	A Rook,
Blackbirds,	Bramblings,	A Magpie,
Skylarks,	Siskins,	4 Turtle Doves,
Meadow Pipits,	Linnets,	2 Teal (males),

4 Common Gulls.

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168. The Scops Eared Owl was a very handsome little bird, and was much smaller than a Little Owl. The facial disc was not very well defined, and the tufts were small.

169. There were not many Bramblings. The heads of the males are becoming rather darker.

170. Teal are becoming scarce; there are no fresh ones in the shops.

171. I think Fieldfares have left, for I never see any now. I have often observed that they leave sooner than Redwings in England.

b. Market Notes—Green Woodpecker.

43. (*March* 6.)—I saw the Green Woodpecker taken from the handkerchief in which it had been carried, and then placed in a strong mahogany cage. No sooner had this been done than it began a furious assault upon the woodwork, striking so fiercely and rapidly at the edges that splinters were very soon lying about in all directions. What most attracted my attention was to see it now and then drive its bill for a short distance into a rather wide crack between the bottom and one side of the cage, and then, by a rapid motion of its head, cause the joint to open considerably. The owner of the cage soon perceiving what the consequences would be if he permitted this to continue much longer, once more tied the bird up in the handkerchief. The poor captive then became perfectly quiet, and sat quite still, with only its fine red head peeping out, and looking sadly, but with evident wonder, upon the crowd.

c. Market Notes—Ortolan Bunting.

656. (*September* 1.)—In the shops there are great numbers of Ortolans, fatter than any I have hitherto seen. As they lie in the windows, the only flesh to be seen is a small streak along the line of the keel of the breast-bone. While fattening, these unfortunate birds are crowded together in low dark cages, so low that standing upright is barely possible. I notice that the wing and tail feathers are all closely cut.

d. Nests of the Sand Martin.

500. (*June* 27.)—In the evening I went to the Sand Martins' nests. The first one I examined was so deep that although I thrust

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in my arm up to the shoulder, I was unable to reach the end; therefore I fastened two pieces of bent wire to the end of my walking stick, and by this means drew out a portion of the nest, together with an egg. I tried again with a like result, and then, beginning to feel the sand giving way beneath my feet, I jumped down, when out flew a Sand Martin from the very hole at which I had been working. I then tried again, and drew out the remainder of the nest and a third egg. Having done so, I put the nest together again as well as I could, substituted a wooden egg for the real ones, and pushed the whole carefully back again. The nest was made of dry grass and stalks of plants, lined with large curved feathers. The eggs are rather smaller than the one figured by Hewitson, and are of a clear spotless white, the yolks causing rather a pinkish tinge. . . . I notice that those holes which are nearest the ground are almost invariably very deep, while those which are nearer the top of the bank, and not within easy reach, are seldom more than eighteen inches or two feet in depth. Probably this would not be the case if the birds were not so often disturbed as they are in this place.

506. (*June* 28.)—In the morning the Sand Martins were carrying feathers into the nest from which I took the eggs yesterday (500); but later in the day some boys pelted the birds away, and stopped up the mouth of the hole with stones. I removed them soon afterwards, but waited in vain for the birds to return to the hole.

507. I observe that all the Sand Martins' holes which are just begun are deepest in the centre, and that the marks of the birds' bills are nearly always from side to side, but never vertical. The holes vary in diameter, and are seldom perfectly round. They are generally as though slightly flattened from above.

510. (*June* 29, *Wednesday*.)—In the evening I went to look at the Sand Martin's hole above the one from which I took the eggs on Monday. The birds must have worked very hard, for the hole was nine inches deeper, and there was a very small quantity of hay in it, on which one egg was laid. I have often known a hole deepened after having been interfered with, although the nest itself was already begun.

510. (*July* 5.)—On the evening of the 28th (506), I removed the stones with which some boys had stopped up a Sand Martin's

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hole. On visiting the spot this evening I was pleased to find that the birds had not only cleared away all the loose sand and rubbish, but had actually built a new nest, in which were two eggs.

e. The Little Owl.

256. (*May* 5.)—I very frequently see the bird-catchers coming home early in the morning, each one carrying with him a Little Owl, alive, in a basket. I met one of the men this morning, and he told me that the Owl was used for the purpose of enticing birds to the nets, but he made a secret of the precise manner in which this was done. He has promised to bring me some Little Owls' eggs soon. He says that he often finds them in old walls about this time of year, or a little later.

(ii.) *Samples from the Journal for* 1855—*North Wales.*

a. Roosting Habits of the Finches.

1855.—*February* 14, *Wednesday.*—Several heavy falls of snow.

216. The flocks of Greenfinches, Bramblings, and Chaffinches having now greatly increased, I determined this evening to pay them a visit after they had gone to roost. Accordingly, some time after sunset, I crept silently among the evergreens near the river, and noiselessly moving aside the branches of a large Portugal laurel, could just make out the forms of one or two birds against the sky. I remained crouching for several minutes, when, happening to make a slight noise, I saw heads moving about in dozens. Their owners were all crowded together near the trunk, so closely and in such numbers that I no longer wondered how small birds managed to keep themselves warm at this season of the year. Much as I myself should disapprove of being frightened out of bed on such a night, I could not resist the temptation of giving the tree a shake, upon which there followed such a scene as I shall not easily forget. Thousands upon thousands of Bramblings, Chaffinches, and Greenfinches (I could recognise them by their notes), rose from every surrounding shrub, and flew into the trees above, with such a tremendous noise of rushing wings that for the moment I was positively frightened. But their alarm, as well as my own, was

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soon over; I stood for a while perfectly still against the trunk of a tree, quite forgetting the cold while listening to the chattering and twittering of the birds, as in small flocks they once more descended to the sheltering branches of the laurels. In less than a quarter of an hour all was as silent as before, and I could not help remarking how peaceably and contentedly the poor sleepy birds took their places for the night, scarcely a sound being heard after the first few minutes. Sparrows would have behaved differently; they would have pecked and bitten one another, and have kept the whole neighbourhood in an uproar for half an hour or more, while they noisily squabbled about who had the largest share of the bed.

1855.—*March* 1, *Thursday.*—Changeable.

297*a*. Bramblings still continue to roost in the evergreens. Their manner of assembling in the evening is rather curious. Towards sunset, one or two come into the garden, and alight upon the topmost twigs of the highest trees, where they are continually joined by others from all parts of the valley, until at last, a considerable number being collected, they all fly off to some sycamores close to the Portugal laurels. They then send off several parties, consisting of about a dozen each, and these, flying rather high, go dashing over the valley in various directions, sometimes settling in the trees, and adding to their numbers continually from the small straggling groups which are plentifully scattered about the fields and elsewhere. One by one the flocks return to the garden, and when the sun disappears the whole of the birds descend with very little noise or confusion to the shrubs below, and there, crowding close together, soon fall asleep. I have often and often watched these manœuvres, and invariably have observed that the number of small flocks sent off from the main body never corresponds with those which return. I always see Chaffinches and Greenfinches with them, and now and then a few Goldfinches.

b. First Recorded Nesting of the Redwing in Britain.

May 12, *Saturday.*—Fine and warm.

641*a*. About ten o'clock this morning, as I turned aside the branches of a tall bay tree in searching for nests, a bird, which I thought from the mere glimpse I obtained of it was a Thrush, flew out and went in the direction of the meadow. Immediately after-

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wards I found the nest, and being just able to reach it by standing upon a thick bough, I felt satisfied, from the smoothness and hardness of the lining, that my conjecture as to the bird's species was correct. However, as the nest looked rather untidy, and not so neatly finished as that of the Thrush, I thought I would take a peep at the eggs. There were four of them, and as I took them out one after the other, what was my amazement on finding that they were, as I thought at the moment, Blackbird's! I thought I might possibly have mistaken a hen Blackbird for a Thrush, but then the nest was evidently not that of a Blackbird. Richard Owen, who was with me at the time, seeming to enjoy my astonishment, said that the bird was a Redwing, and that he had even seen the red beneath the wings as it flew out of the tree and darted off above his head. I soon brought my face upon a level with the nest, and there observed that the mud was still soft in some places, that the cavity was not quite so perfect a circle at the brim as a Thrush is in the habit of making, and that, strange to say, beneath the eggs and upon one side of the cavity there was a little fine grass. Greatly puzzled, I retired; and on visiting the spot about half an hour afterwards, I heard the bird fly out again, and was convinced that the peculiar sound it uttered proceeded from the throat of a Redwing. I was too much occupied during the remainder of the day to keep watch upon the nest, but in the evening I found the lining of fine dry grass considerably increased. It is strange that the eggs should have been laid before the nest was completed, but I can only account for it by supposing that the late cold wet and rough weather has delayed the progress of nest-building, and the bird was compelled to lay before its completion.

May 13, *Monday.*—Raining nearly all day.

649. The curious nest which I found in the bay tree yesterday is now thickly and smoothly lined with fine dry grass, but I have not seen either of the birds to which it belongs.

663. (*May* 14).—Very early this morning I crept with great caution to the nest in the bay tree, and there, to my intense delight, distinctly saw a Redwing sitting upon the eggs. I obtained a still better view of her as she caught sight of me and flew off, and then, taking advantage of her absence, I carefully removed two of the eggs—real *bonâ fide* British specimens. The old bird does not

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appear to miss them, but has been sitting all day. I may fairly hope to see young Redwings for the first time in my life; that is, if the frequent visits of others equally curious with myself do not frighten the bird from the spot.

669. (*May* 15.)—The Redwing continues to sit steadily. The eggs which I took very much resemble those of a Blackbird, but are rather smaller. In colour they are pale greenish blue, minutely speckled with several shades of orange brown and reddish grey.

685. (*May* 16.)—The Redwing is still sitting, but has become so shy that she quits the nest when any person passes it, although the leaves completely screen it from observation.

713. (*May* 17.)—The Redwing's eggs are quite cold. I have seen the bird to-day. I think there can be little doubt that she has forsaken.

730. (*May* 18.)—The Redwing's eggs have been quite cold all day.

929. (*June* 5.)—Feeling sure that the Redwings will never return to their nest, I have at last taken it out of the tree. (Then follows a minute description of the nest.)

c. Carrion Crow.

673. (*May* 15.)—This morning, after having taken the Ducks' eggs, I happened to leave them upon the grass for a few minutes, and on my return was just in time to see an old Crow, with one of them in its claws, making off to the nest by the old ruined house on the other side of the river. Crows do not invariably carry eggs in their feet. I have seen one feasting upon a hen's egg, and upon my approach fly off with it upon its bill.

d. Cuckoo.

June 8, *Friday.*—Changeable.

952. About four o'clock this afternoon, Gordon came in great haste to inform me that he had just driven from a Meadow Pipit's nest a Cuckoo, which had turned out an egg and two newly-hatched young birds, one egg only remaining undisturbed. Upon accompanying him to the spot, I was not a little astonished to find a Cuckoo's egg also in the nest. As Gordon could not have been absent more than two or three minutes at the very outside, we of course

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immediately remarked on the rapidity with which the process of laying had taken place; but our suspicions as to the mode in which the egg had been conveyed gave way to certainty upon the discovery that *it was nearly cold*, while that of the Meadow Pipit was still quite warm. Now, even supposing the Cuckoo to have returned to the nest immediately after Gordon left, is it at all probable that a newly-laid egg could have fallen to such a low temperature in so short a time, and if so, how was it that the Pipit's egg did not also cool? I was at first rather inclined to give attention to the fact that the latter contained a living bird, and in order to satisfy myself upon the subject I this very evening procured a newly-laid hen's egg and one that was within a few days of hatching, and placed them side by side in the open air: the result convinced me that the difference between the temperature of the Pipit's egg and that of the Cuckoo's egg could not be thus accounted for. All this tends to confirm my views, that the Cuckoo, after laying its egg in some convenient place, leaves it there until a suitable nest can be found for its reception, to which the bird then carries it in its mouth. The Meadow Pipit did not again return to the nest, so I took one of the young birds and placed it in the Hedge Sparrow's nest by the Ducks' house, where, as above mentioned (951), the eggs are hatching. To all appearance, the old birds have not perceived the intrusion.

e. SEDGE WARBLER.

July 3, *Tuesday.*—Fine, and very hot.

A good many Sedge Warblers about the ditches and marshy places which are overgrown with reeds. I spent several hours watching one this morning, and heard it imitate the notes of a Wagtail on the wing, the twittering of a Goldfinch, the harsh note of a Whitethroat, part of the song of a Skylark, the chirping of the same species, and the rough chattering noise of the Red-backed Shrike. I afterwards heard it singing at half-past eleven o'clock at night.

f. DUCK-HUNTING.

The following extract has more to do with the habits of the observer than of the observed, but is so characteristic that I venture upon its insertion. The author and his younger brother are

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following up some Long-tailed Ducks at Penrhyn, on the Traeth Back.

November 28.— . . . continued their flight towards the opposite side of the bay. Off we set at full speed, loading as we ran, and keeping our eyes so intently fixed upon the distant point round which the Ducks were disappearing, that somehow we forgot we were not upon level ground; the consequence was, that my foot caught upon a tuft of grass, and I toppled over a rock about twelve feet high. The top of my head made a dismal clatter among the loose pebbles below, and upon reckoning up the extent of the damage it was discovered that I had broken a tooth, left a considerable quantity of facial epidermis upon the stones, lost the charge of shot which was intended for a very different purpose, severely scratched the stock of the gun, and most grievously rent a most important article of clothing. Of course we could not think of letting the Ducks off after this; so, after a grumble and a hobble or two upon my part, away we went to the point, and up got the female bird within comfortable distance. I fired, and she fell dead, and the male bird immediately flew to the spot and settled close beside her, but in a few seconds he flew off again. Gordon fired, and he fell long out of our reach. By this time the dead bird was some distance off, for the tide was falling, and the stream inshore was running seawards with great rapidity. I stepped in, not knowing its depth, and soon found the water over my waist. However, the bird was floating temptingly before me, so deeper and deeper I had to go until I had at last got hold of it, and then a serious difficulty made itself apparent. I had happened to walk out upon a ridge of sand, and now I could not find the way back, and there was deep water on all sides. Gordon then comforted me with the assurance that if I would but "kick up my heels," the stream would take me down like a shot to a distant sandbank, where he would soon join me. Accordingly, off he set for a boat, while I, in expectation of the cruise, threw my shot-belts ashore, and wished I were with them. Then the water began to lift up my heels for me, so seizing the Duck's feet in my teeth, I turned my face towards the shore, and just then, as luck would have it, I arrived at a spot where the strength of the stream was but slight; and so, after a flounder and a scramble, I found myself safely landed a good many yards below the place

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where the shot-bags were lying. Gordon soon came back, grinning from ear to ear, and in a quarter of an hour more we were safe at the nearest inn fire.

(iii.) *A few Leaves from the Journal for* 1863.

Pallas' Sand Grouse.

1863.—*Wednesday, Oct.* 28.—Rain; nearly calm.

999. This afternoon I shot a pair of Mealy Redpoles in the garden. At least I suppose that they are a pair, from the difference in their appearance, but I shall be able to examine them more carefully very soon.

1000. In the garden I saw the Robin, which has been there for some days, and two Chaffinches.

1001–2. Skinned the Redshank which was shot on Friday (964). In the stomach I found some sand and a few small periwinkles. The bird was a female. In skinning birds of this kind, it is often very difficult to manage the feathers of the back of the neck, which appear to have a great objection to lie smooth after the skin has been removed. I have discovered two causes for this: first, that the skin of the neck becomes stretched during the removal of the skin; and secondly, that it is often stuffed too tightly. It is true that both these faults may occur in any kind of bird; but it should be remembered that in Sandpipers the feathers are somewhat short and scanty, and therefore call for additional care in their management.

1003. Examined and took down description of the Dunlin which was shot on Saturday (971). It was a male, and the stomach contained some sand and small stones.

1004. There are still a great many Chaffinches remaining about the garden.

1005. Blackbirds are still very abundant. While sitting at the window this morning I counted twenty-three in sight at one time.

1006. Crows are becoming very troublesome and bold, now that the beef-killing is going on. Two came to the house this morning, but I was only able to kill one of them.

1007. I have seen a bird to-day which has puzzled me a great deal, and afforded no small cause for speculation. I was walking

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round the garden this morning, when, hearing a loud rustling of wings among some tall bushes and dead weeds, I at once went in and commenced a search. I had scarcely done so, and was stooping down to look under some trees a little way off, when a sudden loud whirring sound quite made me jump, and the very instant I looked up a rather large bird disappeared over the top of a hedge of elders. The glimpse I obtained was so momentary that I had not the least idea of the form even of the bird's wings. All I know is, that something of a pale buffy colour caught my eye for the fraction of a second, and was gone. I have searched every inch of the garden, and all the neighbouring fields, but no more have I seen of it. The only bird of the colour, or anything like it, is a Landrail, but the Landrail is much darker, and does not make such a noise with its wings; besides, it is not likely that one would be here at this time of the year, and even if it were, it would neither have been made to take wing so easily, nor would it have been able to disappear over the hedge at such an astonishing rate. . . . I can do nothing but draw a little upon my imagination, and the result of this is, that Pallas' Sand Grouse, and the possibility of its having wandered to this out-of-the-way spot, does not now meet with such a small degree of attention as it would have received—say, this time yesterday. Many of these birds have lately been killed in England, and even in Scotland; and a bird of such power of wing would make nothing of extending its flight to Shetland, should it feel so inclined. This may appear rather like jumping at a conclusion, but I trust that time will settle the question, even if it should prove me to have been a little too hasty. Perhaps it may be a pale-coloured variety of some well-known bird; but of this I feel convinced, that no British bird except Pallas' Sand Grouse, or some chance variety, bears the peculiar colour that I caught a glimpse of this morning.

Thursday, Oct. 29.—Rain from S.E.; frost last night.

1008. When I went down to the willow hedge near the loch this morning, I heard the loud noise of wings again, and by the time I could look over the bushes the bird was more than a hundred yards away, and in the act of alighting beneath some elders. It only remained there for a few seconds, and then dashed off rapidly towards the garden. As it rose the first time it uttered four short

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single notes, very unlike those of any bird with which I am acquainted. It is rather annoying to think that, although I have now seen the bird three times, I have not the slightest idea of its form, so very short is the time that it allows me for observation.

1009. A good many Snow Buntings about the stubble. I shot one, which was very dark in front of the neck, and had but little white upon the wings. I saw a few flocks about the fields at Haroldswick.

1010–11. A lad at Norwick shot a Tufted Duck in a pool of fresh water near that place last spring. He also says that he saw a Calloo drake at Balta Sound on Thursday. This is the first I have heard of this year.

Friday, Oct. 30.—Very heavy gale from S.E., commencing at 6 A.M. and falling at noon.

. . . . . .

I have seen nothing more of the strange bird to-day.

. . . . . .

Monday, Nov. 2.—Frequent showers of hail and rain; wind S.E. to S.

1042–3–6–7. . . . We crossed a lot of stubble, and were nearing a patch of turnips, when up got a strange-looking bird, uttering some loud distinct notes. It was far out of reach, so we stooped towards the ground, and kept our eyes carefully fixed upon the bird as it wheeled over the neighbouring fields, and finally settled again near the edge of the turnips. We walked smartly up, but long before we were within reach it rose again, and disappeared on the opposite side of the voe. Having seen quite enough to assure us that it was really a Sand Grouse, we immediately went in pursuit, caring very little what became of the Stints; but seeing nothing more of it, we returned in about an hour's time, thinking that, as the field was a quiet one, the bird might return. In this we were correct, for we discovered it again near the same spot, but it was wilder than ever, and made off again in the same direction as before, returning once more towards us, and passing me upon my left. . . . The heavy showers drove us to shelter very frequently, and wasted much of our time; but before dark we had visited the field three times more, seen the bird in the same place, and each time watched it disappear from view upon the other side

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of the voe. There can be no reasonable doubt that it is a Sand Grouse. It is a pale buffy colour, and even at a great distance a black patch was very conspicuous. As it flies it frequently utters a succession of short notes sounding something like the words "*tiou, tiou, tiou.*" The bird while flying has a good deal the appearance of a Golden Plover, but its flight is even more rapid. Once, when it chanced to get among some Starlings, they immediately dashed at it, and followed it as far as they were able, no doubt mistaking it for a Hawk.

1048. There are three Mergansers about the voe.

1049. Snipe are very abundant now. I even meet with them feeding among the bushes close to the house.

1050. Now and then I hear a Starling imitating the note of a Brambling.

Tuesday, Nov. 3.—Showery; light breeze from N.E.

1051. T. and I were up soon after daylight this morning, looking for the Sand Grouse, but nothing was to be seen of it until about eleven o'clock, when, as I was coming home, rather dispirited, across the fields, I heard the notes of the bird, and saw it fly as if from the hills, and then alight in the old spot. I crept up behind the dykes, and peeped through the crevices, but as it was some distance out of range, I contented myself with watching it for three-quarters of an hour, hoping that it would come a little nearer. It kept as usual among the stubble, close to the edge of the turnips, but so closely did it resemble the colour of the former, that it was not until the bird began to move that I observed it. It moved about rather slowly, keeping the head and the fore part of the body rather low, and continually picking at something upon the ground. It seemed to take very short steps, and in fact it crept, not walked. As it was only getting farther from me, I endeavoured to approach it by crouching among the turnips, but it was of no use; the bird saw me, and was off in an instant. This day passed in the same manner as yesterday, in patient watching for the bird and continual unsuccessful endeavours to approach it in the open field; and now I must wait, as well as I can, until daylight shall enable me to renew my efforts, for succeed I will, if success only depends upon perseverance.

1052. There must be more of these birds about, for James Gray

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came to me yesterday full of an account of a "beautiful bird like a Plover," which he saw at Haroldswick on Sunday last. He very accurately described a Sand Grouse; so there can be no mistake about it. He never knew before that there was such a bird in existence. Another appears to have been seen in Balta about the same time.

1053. There are plenty of Ravens to be seen about. Two flew over me this morning, and I shot one of them.

1054–5. Along shore there are plenty of Snipe to be met with, feeding among drift-weed by the water's edge. There is also a flock of Ringed Plovers, and among them a few Stints.

1056. I saw three Mergansers near the shore, but they swam far out to sea; and although I hid among the rocks for nearly an hour, the suspicious birds seemed to know I was there, and would not venture within three hundred yards of my hiding-place.

1057. There are still as many Fieldfares as ever, but fewer Blackbirds and Redwings.

1058. Some Golden-crested Reguli and some Chaffinches are still remaining in the garden.

1059. This morning I saw a Shag washing and dipping.

1060. Two Herons were feeding in the loch in front of the house after sunset.

Wednesday, Nov. 4.—Frequent showers of hail and rain; strong N.E. wind.

1061. I was again after the Sand Grouse this morning, but saw nothing of it until about noon, when it appeared in the old field again, and once more got away without giving me the chance of a shot. At last, when, according to custom, I approached the field to see if the bird had returned, I heard its notes behind me, and immediately stooping down, I saw it fly high above my head, and settle near the turnips, this time apparently rather closer to the dyke than before, and therefore most probably within shot. I now determined to neglect no precaution, and sheltering the gun from the rain as well as I could, put on fresh caps, with a grain or two of dry powder in each, and then commenced crawling round the dykes,—rather a long job, and a wet one too, for the rain had been very heavy in the night. When I had reached the desired spot, I cautiously raised my head, pushing the gun first, but not a living thing was

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to be seen. Thinking I had not gone far enough along, I withdrew as quietly as possible, and had just dropped upon my hands and knees when the well-known notes sounded close to me. Up I started, and let fly at the bird, which, judging by the distance it had then gone, must have risen among the long grass, about ten yards off. However, he had risen for the last time, poor fellow! for he fell dead among the turnips, shot under the wing. He is, as I supposed, a specimen of Pallas' Sand Grouse (*Syrrhaptes paradoxus*). The latter name is well bestowed, for a more puzzling bird I never saw.

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